Foreign Aid and State Legitimacy in Sub-Saharan Africa

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What Happens when China Enters the Fiscal Contract

Abstract

Few of the so-called traditional donors can look back on equally long-lasting spending activities as the People's Republic of China. Yet, profound academic interest for Chinese development assistance has only aroused in the 2000s when the country has significantly augmented its aid volumes directed towards developing countries, particularly Sub-Saharan Africa. As Chinese aid considerably differs from traditional patterns, it has often been subject to harsh Western criticism. But does Chinese aid truly damage state-society relations in host countries? Foreign aid, in general, has repeatedly been suspected of eroding the fiscal contract and undermining state legitimacy in recipient countries as it substitutes the state in one of its most fundamental duties, the provision of public services. In recent times, the academic debate has changed, drawing a more innoxious image of the role of international donors in this respect. Using geo-referenced data of Chinese aid projects and matching it with a pan-African survey, in this study, I examine the impact of an exposure to Chinese aid on Sub-Saharan African citizens' legitimating beliefs and find a moderately positive but statistically significant causal effect. Beyond this, I explore heterogenous effects across different macro-contexts and aid-targeted sectors. By contrasting my results with the impact of World Bank aid projects, I find evidence for a China-induced rather than aid-induced effect. Potential mechanisms that could drive the results appear to be ambiguous.

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Abbreviations

ADM2	Second-order administrative division
ATE	Average treatment effect
CI	Confidence interval
DAC	Development Assistance Committee
DiD	Difference-in-Difference
EA	Enumeration area
EXIM-Bank	Export-Import Bank
FE	Fixed effects
GDP	Gross domestic product
GGFCE	General government final consumption expenditure
IATS	International Aid Transparency Standard
LPM	Linear probability model
NGO	Non-governmental organization
OECD	Organization for Economic Cooperation and Development
ODA	Official Development Assistance
OOF	Other Official Flows
PRC	People's Republic of China
SSA	Sub-Saharan Africa
SSC	South-South cooperation
WB	World Bank

1   Introduction

1.1   Object of Investigation

As a key-player in South-South cooperation (SSC), the People's Republic of China (PRC) has undertaken development cooperation on the African continent for many decades (Morgan & Zheng 2019; Strange 2019). With the launch of the Forum on China-Africa Cooperation in 2000, Chinese engagement in Sub-Saharan Africa (SSA) has intensified significantly, thereby offering aid-receiving countries an alternative economic development model often referred to as "Beijing consensus" in opposition to the neo-liberal Washington consensus which has forfeited credibility amongst African leaders after the financial crisis of 2008 (Delcourt 2011: 13). Thanks to its convenient, unbureaucratic, and efficient mode of operation which is in stark contrast to the traditional Western aid regime of the Development Assistance Committee (DAC), China as a donor has gained popularity amongst both, populations and political elites of recipient countries (Xu & Zhang 2020: 325f.; Hernandez 2017: 531). This aroused the interest and skepticism of the global community; Western players in development cooperation constantly express their concerns about China's activities in SSA, alleging that Chinese investors are mainly interested in the extraction of natural resources and oil concessions (Singh 2021: 246f.). For this reason, Chinese aid is often considered as "rogue aid" (Naím 2007) and a vehicle to perform "debt-trap diplomacy" (Singh 2021; Carmody 2020) to establish a geopolitical and economic hegemony by forcing SSA nations to take over Chinese standards, norms, and governance ideas, while simultaneously undermining Western aid programs that promote democracy, good governance, and stable civil societies (Regilme & Hodzi 2021: 121). Reproaches of Chinese neo-colonial ambitions in SSA, however, have repeatedly been debunked as a myth, at least when compared to the practices employed by Western donors (Singh 2021: 242; Bräutigam 2015: 151ff.). Nonetheless, China's rapidly growing prominence on the African continent has been the object of much speculation but little fundamental research with respect to its impact on aid recipients. While new questions have been raised about the implications of Chinese aid for state-society relations in host countries, it has long been virtually impossible to examine Chinese aid at a disaggregated level since Beijing does not publish official information on its developmental activities (Grimm et al. 2011). The release of a new geo-referenced dataset on China's aid projects, covering the years 2000 until 2014 has recently paved the way for in-depth analysis on the impact of Chinese aid at the micro-level. Drawing on this dataset as well as survey data from 28 SSA countries, this thesis aims to

contribute to the much debated and still unresolved question in development literature of whether foreign aid strengthens or undermines state legitimacy in host countries. Legitimacy is pivotal for the execution of power and the persistence of political regimes and hence "the central issue in (…) political theory" (Beetham 1991: 41). It has long been argued that non-state service provision and foreign aid decrease state legitimacy since perceived performance of state institutions declines and citizens lose faith in their ability and commitment to provide for them in an equitable and efficient manner (e.g., Moyo 2010). Recent contributions, however, suggest otherwise (e.g., Dietrich et al. 2018). Yet, so far, the academic debate in this field has focused on DAC-donors at the expense of so-called "non-traditional" donors, such as China, which merit further examination. Against this backdrop, my research question is as follows:

RQ: *In how far does the exposure to Chinese aid projects affect SSA citizens' legitimating beliefs?*

To answer this question in an elaborate and contextualized manner, my analysis will include several sub-aspects, for which, however, no separate research questions or hypotheses will be derived as they mainly serve to complete the overall picture: By using contrastive World Bank (WB) data, I will verify whether the unveiled effect is due to foreign aid in general or the unique characteristics of Chinese assistance[1]. Additionally, I will examine the effect across heterogenous macro-specific contexts and different aid-targeted sectors. Lastly, I will explore potential theoretical mechanisms that could be responsible for the revealed effect.

1.2   Research Design

My argumentation is imbedded in a theoretical framework often used by social scientists when evaluating the effect of (external) public service delivery on people's legitimating beliefs, the *fiscal contract* (Timmons 2005). Within its line of argument, the extent of people's compliance with civic duties, particularly tax obligations as a sign of attributed legitimacy, is positively correlated with the availability and quality of public services. The theoretical premises of the fiscal contract are mostly built upon conditions of consolidated states with effective institutions capable to generate revenue from citizenry and to produce high-quality public services (Stollenwerk 2018: 85f.). Nonetheless, this theory has frequently been used in the context of developing and aid-receiving countries (section 2.2).

Due to this study's epistemic interest, my research design is clearly X-centered. Aiming to draw causal inferences, I mix two research designs which are by nature closely related to

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[1] I use the terms "aid" and "assistance" interchangeably.

each-other (Mahoney 2008: 421): a large-N design, adopting a population-oriented rather than case-oriented approach according to Mahoney (2008) to estimate the average effect of exposure to Chinese aid on people's legitimating beliefs towards their state, and an (observational) quasi-experimental research design based on the comparison of treatment and control groups during a pre- and post-treatment measurement phase (before and after the occurrence of Chinese aid projects in a person's vicinity), therein following Shadish and colleagues (2002). Seeking to identify a typical causal effect within the largest reasonably possible population, I combine geo-data with three consecutive waves of a cross-national African survey, thereby relying on a representative sample of 93,661 randomly selected respondents as my unit of estimation. In contrast, the assignment of respondents as treated or non-treated is – as common in social sciences – not perfectly random and even more "manipulated" by my decision on the geographical cut-off that determines whether a person is considered to be exposed to Chinese aid. Adopting this strategy, special emphasis is placed on the broad generalizability of the results for which reason it is of utmost interest to maximize the number of cases under consideration (Fischer & Goerres 2020: 129). A large number of observations increases the variance which reduces the standard error of estimation, resulting in more valid and significant inferences. This, however, comes at the expense of in-depth analysis of single cases. Though survey respondents are part of a nested or multi-level data structure, in this study, countries are seen as entities of the SSA macro-region rather than unique, complex social configurations. To estimate the mean causal effect, I employ multivariate inferential statistics.

1.3   Proceedings

In order to achieve the objectives of this thesis, I proceed as follows: First, I will provide an overview of the state of research in the two main fields covered by this study, the Chinese aid regime as well as the relationship between (external) public service provision and state legitimacy in developing countries, before presenting my contribution to the academic debate in these realms (chapter 2). Hereupon, I will briefly outline the key concepts that are critical to understand the theoretical background guiding this research (section 3.1). The subsequent presentation of fiscal contract theory will be enriched by a theoretical discussion on the intervention of external actors in state-society relations (section 3.2). Thereafter, I will display the empirical setting in which the object of research is imbedded (chapter 4). This is crucial as fiscal contract theory does not make unambiguous predictions for the effect of aid on state legitimacy, for which reason the hypothesis – though theoretically derived – will take into account empirical circumstances, therein following Brazys and colleagues (2017) (section 4.3).

Further, I will give detailed specification of my estimation strategy (chapter 5) before diving into the empirical analysis (chapter 6). The empirical results as well as their external validity, their benefits and shortcomings will be discussed in chapter 7. I will conclude this thesis by summarizing my contribution, deducing some policy recommendations, and proposing avenues for future research in this field (chapter 8).

2 State of the Art

In this chapter, I will give an overview of the existing literature on Chinese development aid as well as previous research on the effects of (external) service provision on state legitimacy. Thereafter, I will demonstrate how my study contributes to the academic debate.

2.1 Studies on the Impact of China's Development Assistance

Even though China has been a donor of foreign aid for about 70 years, fundamental research on Chinese development assistance has only emerged during the last two decades. Deborah Bräutigam provides academic audiences with probably the most exhaustive contributions in this field (e.g., 2015; 2012; 2008). Her monography "The Dragon's Gift" (2009) offers a comprehensive insight into China's aid policy in Africa. Beyond that, academic literature encloses for instance analyses on the PRC's history as a donor (Morgan & Zheng 2019; Strange 2019), the characteristics of Chinese aid flows (Tseng & Krog 2016; Alden & Large 2011), their impact on economic activity (Bluhm et al. 2018), the architecture and interplay of Chinese development institutions (Zhang & Smith 2017), the ramifications that China's development engagement entails for traditional donors and the global governance of development assistance (Hernandez 2017; Swedlund 2017a; Weaver 2015), as well as discussions on the loss of labor and environmental standards as local consequences of China's aid activities (e.g., Compagnon & Alejandro 2013). The PRC's motivations for giving aid, such as ensuring access to natural resources, has been lively debated by Harchaoui et al. (2021), Singh (2021), Fuchs and Rudyak (2019) as well as Dreher and Fuchs (2015).

As a non-reporting donor, China does not publish any statistics on its aid flows, therefore investigating the effects of Chinese aid at a subnational level within large-N research designs has not been possible until recently (Grimm et al. 2011). Strange and colleagues (2017a) have published a seminal dataset, entailing precise information on an enormous number of individual Chinese aid projects. The underlying data collection has been updated and geocoded by Dreher et al. (2019), therewith enabling and inspiring the emergence of a whole new research branch with respect to local impacts of Chinese development assistance, which this thesis is

also part of. However, despite a growing interest with regards to this dataset, up to the time of this study few scholars have exploited the newly created treasury of information amongst which almost all focus on the African continent[2]. Unsurprisingly, Dreher and his co-authors (2021; 2019; 2016) make intensive use of the newly created dataset, investigating allocation patterns of Chinese aid in Africa. They find Chinese aid to be particularly prone to aid capture by political leaders as their birth regions or areas populated with people sharing their ethnic ties attract substantially more funding from the PRC than others. However, this favoritism does not seem to harm the effectiveness of Chinese aid in economic terms.

Isaksson and Kotsadam (2018a) conduct an analysis on the causal relationship between exposure to Chinese aid and levels of local corruption, finding evidence to suggest that more bribes are paid in areas of ongoing Chinese aid projects. Their results are consistent with Cha (2020) who also examines the impact of Chinese aid on corruption, using a sample of 30 African countries and comparing the effects to those exerted by WB projects. Another paper by Isaksson and Kotsadam (2018b) is motivated by Western critiques, accusing Chinese aid to fuel a race to the bottom regarding labor standards in aid-receiving areas. Using a sample of 18 African countries, the authors find evidence that Chinese development projects, in contrast to those of other bi- and multilateral donors, discourage trade union involvement at the local level. Isaksson (2020) examines the effect of people's exposure to Chinese development projects on local ethnic identification in eleven African countries, finding evidence that ethnic identities become more salient in the presence of Chinese aid. Gehring and colleagues (2019) dedicate their paper to the question of whether aid from China and the WB fuels conflict in aid-receiving regions of Africa, concluding that aid from both donors reduces rather than increases the likelihood of lethal conflict. A comparative study between the effects of Chinese and WB aid allocation on citizens' support for incumbent political leaders has been published by Knutsen and Kotsadam (2020). Despite the vulnerability of Chinese aid to elite capture, the authors only reveal positive effects of WB aid on incumbency. Further, Xu & Zhang (2020) scrutinize the effect of Chinese aid on people's perception of the donor and show that China's popularity increases amongst locals exposed to its aid projects. Their results, though, do not align with those obtained by Blair et al. (2021) who find that Chinese aid reduces beneficiaries' support for China but does not harm people's support for liberal values. Blair and Roessler (2021) are the first to examine the effect of Chinese aid on state legitimacy. Employing a multi-method design, the authors compare aid from China and the United States in six SSA countries and conduct a case-study

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[2] This geographical focus might be because data on Chinese aid sites is most encompassing for this world region. The notable exception to this is Bluhm and colleagues (2018) (see below).

in Liberia, finding insignificantly positive effects of Chinese aid on people's legitimating beliefs.

2.2 Studies on State Legitimacy in Developing Countries

State legitimacy in fragile or developing countries, especially in SSA, has received increasing attention in academic literature. Some scholars adding to this research understand legitimacy as the strength of the relationship between society and state institutions (Englebert 2000), others operationalize legitimacy via citizens' trust towards their state (Dreier & Lake 2019; Winters et al. 2018; Börzel & Risse 2016; Hutchison & Johnson 2011) or through a general acceptance of legal authorities (Risse & Stollenwerk 2018; Peltier 2007). Yet, most authors contributing to the academic debate about state legitimacy in (African) developing countries imbed their contributions into the logic of a social or fiscal contract, thereby emphasizing the importance of mutually beneficial exchange relationships between the state and its subordinates (McCulloch et al. 2021; Nyamapfeni 2021; Moore et al. 2018; Prichard 2015; Moore 2004; Fjeldstad & Semboja 2001). Many contributions are dedicated to the question of how service provision influences state legitimacy, commonly measured through tax morale (the declared acceptance of the state's right to levy taxes), or actual tax compliance (the reported payments of taxes). Some of these studies find evidence for a positive relationship between (effective) service delivery and state legitimacy in Africa (Bodea & LeBas 2016; Ali et al. 2014; D'Arcy 2011), others, although admitting the positive effect of (high quality) public services on people's legitimating beliefs, reject conventional wisdom of a linear relationship between governance effectiveness and legitimacy in the context of developing countries and reveal the importance of intervening parameters such as citizens' experiences of and expectations on how public services are delivered (Brinkerhoff et al. 2018; Mcloughlin 2017; Brazys 2016; Mcloughlin 2015; Brinkerhoff et al. 2012). Several authors are interested in the virtuous circle of governance which predicts a mutually reinforcing relationship between state legitimacy and governance effectiveness in fragile or developing countries (Bereketeab 2020; Stollenwerk 2018; Schmelzle & Stollenwerk 2018; Schmelzle 2011).

In addition to studies focusing on domestic service delivery and legitimacy in developing countries, there are several contributions dedicated to the impact of public services provided by external actors, notably donors of development aid, on state-society relations. An outstanding study in this field is the dissertation "Credit or Blame?" by Audrey Sacks (2011a). Therein she raises the question of whether donor and non-state service provision undermines or strengthens the fiscal contract in aid-receiving countries. Her analysis of the region of SSA

point to a positive association between donor and non-state actor service delivery and people's willingness to comply with tax departments, courts, and the police. Further studies on this topic by Sacks (2012; 2011b) support her previous findings. Papers by Blair and Roessler (2021) as well as Winters and colleagues (2018) also point to an innocuous influence of aid on state-society relations in host countries. Yet, in this context, Sacks as well as other authors (Cruz & Schneider 2017; Stel & Ndayiragije 2014; Stel et al. 2012) emphasize the importance of citizens attributing service delivery at least partly to domestic governments. In this context, the branding of aid projects plays a critical role as information on the source of funding can determine whether people credit their government for externally provided services. This effect of aid branding in (non-African) developing countries is examined by Montinola et al. (2020), Dietrich et al. (2018), and Dietrich and Winters (2015). In the framework of a case study in Uganda, Milner et al. (2016) find evidence that citizens even prefer development projects funded by external donors as they believe that those are more effective and trustworthy than their domestic political authorities. Similar results are found by Fjeldstad (2001) who reveals the positive influence of donors' presence on tax compliance in Tanzania as people expect them to increase their government's accountability, responsiveness, and democratic development.

Besides the numerous abovementioned studies, Blair and Winters (2020) compiled a special issue dedicated on the causal chain of foreign aid, service delivery, and state-society relations in the developing world. The contributions made in this issue, for instance, touch upon the link between foreign aid and legitimacy in Kenya (Dolan 2020) or the differing effects of aid channeled through non-governmental organizations (NGOs) versus being directly given to the government in Uganda (Baldwin & Winters 2020). Special emphasis shall be put on the contribution by Marineau (2020) who runs a survey-based cross-national multilevel analysis in 36 African countries. Contrary to most other authors, Marineau finds overall support for a negative correlation between foreign aid and tax compliance as an indicator for legitimacy. The underlying reason he identifies is an underinvestment in tax enforcement due to false incentives of foreign aid. Therewith, he adds to the "aid-curse" literature stressing the threats of development assistance for the institutional quality and state legitimacy in aid-receiving countries (Ahmed 2012; Moyo 2010; Djankov et al. 2008; Knack 2001; Lancaster 1999; Bratton 1989). Particularly in cases where aid bypasses domestic governments, it has been found to have detrimental impacts on legitimacy, citizens' evaluations of government performance as well as domestic capacities (Barma et al. 2020; Chasukwa & Banik 2019). In this sense, Bellina et al. (2009) advise caution regarding accountability and legitimacy dilemmas in host countries, potentially arising from external service provision.

2.3   Contribution to the Academic Debate

The controversial debate on the relationship between development assistance and legitimacy needs further contributions, not only to identify potentially unintended effects of aid but also to be able to adapt fiscal contract theory in the context of developing countries. As demonstrated above, cross-national studies focusing on the impact of foreign aid on state-society relations have disregarded non-traditional donors despite their rising importance. To the best of my knowledge, apart from the remarkable exception of Blair and Roessler (2021), all existing research related to this topic focuses on donors belonging to the Organization of Economic Cooperation and Development (OECD). The present thesis contributes to the academic literature in five ways: First, I add another piece of puzzle to the recently emerged research strand dealing with the impacts of Chinese aid on the micro-level which shall help transmitting a more informed and complete picture of the ramifications of China's development activities. Second, I help to pave the hitherto almost untrodden path of research on the influence of non-traditional donors on state-society relations and hope to encourage further research on this topic. Third, adding to the debate on whether foreign aid strengthens or undermines state legitimacy, I offer a large-N cross-national analysis as a counterweight for the variety of case studies in this domain. Fourth, I enrich this research field by exploring heterogenous effects which are often neglected in this context and by testing several theoretical mechanisms through which the impact of aid on people's legitimating beliefs work, thereby contributing to the reveal the reasoning behind the fiscal contract in developing countries. Fifth, I verify the results of Blair and Roessler (2021) who address a similar question but follow a different strategy.

3   Theoretical Framework

This chapter is dedicated to the theoretical framework in which the following analysis is imbedded, namely the fiscal contract that shapes state-society relations.

3.1   Key Concepts

Three key concepts of fiscal contract theory need to be introduced before taking a closer look on how the fiscal contact regulates state-society relations: taxation, governance effectiveness (mainly in the form of public service provision), and state legitimacy.

3.1.1   Taxation

Collecting taxes is inextricably linked to state building or, as Levi puts it, "[t]he history of state revenue production is the history of the evolution of the state" (Levi 1988: 1). Nowadays, taxation is a key feature of modern statehood, as this form of raising revenue enables

the state to provide security for its population, foster economic development, and ensure the coverage of citizens' basic needs. There is widespread consensus in development literature that raising taxes also plays a key role for state-building processes in developing countries as it enables political authorities to enter negotiations with its populace, therewith strengthening state-society relations (McCulloch et al. 2021: 226). Collecting taxes, however, can easily become a costly endeavor, since the state must build up and finance bureaucracies, train and hire tax collectors, implement regular audits as well as establish and uphold a penal system for tax evaders (Timmons 2005: 534f.). Therefore, states, especially in the developing world, often rely on citizens' tax morale when collecting revenue. According to classical economic models, reporting one's taxes is a rational choice and a trade-off between the penalty costs in the case of detection and the financial losses in the case of compliance. Despite this rational choice argument, a large body of empirical studies "demonstrate that the majority of taxpayers are inherently honest and willing to pay their share" (Kirchler 2007: 167). This is mainly to be ascribed to an agreement between state and society that will be explained in further detail below.

3.1.2 Governance Effectiveness and Public Services

Governance is conceived as "the various institutionalized modes of social coordination to produce and implement collectively binding rules, and/or to provide collective goods" (Börzel et al. 2018: 7). If these tasks are fulfilled in the indented way, governance can be described as effective. In the following, I will use the terms "governance effectiveness" and "government performance" as synonyms. Following Max Weber, one of the most central tasks a state must fulfil is to provide citizens with public services[3] that secure their social welfare (1978: 905). Public services comprise, for instance, infrastructure, public transport, sewage systems, electricity grids, education, health care, security, insurances, and legal or administrative services. They are the ubiquitous manifestation of state-society relations as they "make the state visible to its citizens (…) [and] tangible through an almost daily interaction" (Van de Walle & Scott 2009: 9).

According to classic economic theory, public services are characterized by the property that "once produced, [they] can be consumed by an additional consumer at no additional cost" (Holcombe 1997: 1). Beyond that, nobody can be excluded from their consumption. Being systematically underprovided or not produced at all, they constitute an object of private market

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[3] A clear conceptual distinction between "public goods" and "public services" does not exist, sometimes both notions are used in combination. Legal distinctions of goods and services are inconsistent across countries. On a service-goods continuum, most products are situated between pure service (such as teaching) and pure commodity good (such as aliments). Except for literal quotations, I will stick to the terminus "public services".

failure (Lee et al. 2014: 636). On this account, the state as the regulator of market failures needs to fill the gap by making people pay for the production and provision of such services in terms of taxes and other fees (e.g., tolls). Thanks to its market power in this realm, the state achieves positive economies of scale. To maintain the "fiscal equivalence between public goods and tax prices" (Feld & Frey 2007: 104), the state must have comparative advantages in the production of public services, i.e., it must produce these services at a lower price point than each individual would be able to do for herself (Timmons 2005: 535). Citizens are then permitted to – in the optimal case – equitably access these services.

3.1.3 State Legitimacy

The concept of state legitimacy[4] is theoretically hard to grasp and offers a multitude of facets. In a nutshell and using the words of Bruce Gilley – legitimacy can be described as the "right to rule" (2009). This right "has been central to the effective exercise of political power", which is why the concept of legitimacy keeps both, political philosophers and politicians, occupied since ancient times (ibid.: xi). The link between the state and its citizens is at the core of the concept of legitimacy (Peltier 2007: 24; 27). As David Easton argues, political systems have survived the longest when having been imbedded in an environment of "support nourished by ingrained beliefs in the legitimacy of the relevant governments and regimes" (1957: 399).

David Beetham differentiates between three levels of (domestic) legitimacy, the *legal*, *normative*, and *empirical* one (1991:16ff.). While legality refers to a state where power is acquired and exercised according to previously established and formalized rules, the normative level entails that legitimate power can be justified by shared beliefs between dominants and subordinates about rightful sources of authorities, appropriate qualities of those holding power as well as a common understanding of the general interest which needs to be served (ibid.). While these two levels of legitimacy will be neglected in the following, the empirical level will be critical for this study as it is the only one measurable by means of survey data. Beetham's definition of empirical legitimacy is to be conceived as the subordinate's expression of consent to the execution of power by the dominant through a demonstrated willingness to obey:

> "Actions expressive of consent (…) create a normative commitment on the part of those engaging in them. (…) [S]uch actions have a publicly symbolic (…) force, in that they constitute an express acknowledgement on the part of the subordinate of the position of the powerful, which the latter are able to use as confirmation of their legitimacy" (ibid.: 18).

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[4] The definition of legitimacy I rely on focuses on the vertical power relationship within countries. It refers to the state and its institutionalized executive body as opposed to governments or their members being subject to personnel change.

Under such circumstances, opposition is weak amongst subordinates as they take the existing political institutions for the most appropriate and proper ones, reflecting their own moral principles for the public sphere (Easton 1965: 278). This observation emanates from the fact that an institution or a state perceived to rightfully exert power induces a subordinate's feeling of obligation to accept the decisions of this authority as binding rules and to abide by them. The opposite of granting legitimacy through demonstrated consent is a subordinate's withdrawal of legitimacy by non-cooperation, the refusal to comply with authorities' regulations, or active resistance against those in power. Every leader – to secure her leadership – needs to rely on an overall compliance with her decisions at least most of the time (Tyler 2006: 19; 71). Following this line of reasoning, legitimacy makes people adjust their behavior to the expectations of those seen as legitimate. Such an adjustment of one's behavior ultimately gives meaning to rules and laws which would otherwise be completely useless.

For my analysis, I draw on a concept, according to which state legitimacy consists of two components, a *value-based* (or attitudinal) and a *behavioral* component (Gilley 2009: 11ff.; Levi & Sacks 2009: 314). The value-based component is manifested in "a sense of obligation or willingness to obey authorities" while the behavioral component exposes itself through the "actual compliance with government regulations and law" such as paying the fees one owns to the government or not defying the police (Levi & Sacks 2009: 314). Theoretical assumptions suggest that value-based legitimacy automatically translates into behavioral legitimacy, implying actual compliance with the object of legitimacy[5] (Levi et al. 2009: 356f.). In this context, the absence of fear and favor is particularly important as under coercive measures, compliance with authorities cannot be ascribed to legitimating beliefs but to the fear of being sanctioned for non-compliance or to pure self-interest (Lamb 2014: 15; Gilley 2006: 502). In reality, though, coercion is usually part of a state's means to ensure that its rules are obeyed, hence, following these rules is in the rational interest of every citizen. For this reason, Levi (1997) introduced the term of "*quasi*-voluntary compliance", that is, "compliance motivated by a willingness to comply but backed up by coercion" (Levi & Sacks 2009: 314). A certain presence of coercion is undoubtedly in favor of the citizenry since it ensures – at least to a certain degree – that fellow-citizens also comply with the prevailing rules. The more capable the state is to monitor compliance, to enforce civic duties, and to punish evaders, the more compliance is to be expected. Legitimacy is a way to ensure this deference with a minimum of coercive measures as citizens consent to the state's rules and – for the most part – willingly

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[5] As my research design does not allow to observe actual compliance but only the reported expression of consent, the focus of this study lies on value-based legitimacy.

comply with them (Levi 2018: 609). This implies that legitimacy needs to be constantly "claimed, justified, and accepted through the process of legitimation" (von Billerbeck & Gippert 2017: 280). As the degree of legitimacy may also change over time, enjoying it at a given point in time is no guarantee for continuation (Lee et al. 2014: 637). For this reason, audiences want to be continuously convinced that an actor or an institution is the most appropriate to exert power over them and that it deserves not only the audience's confidence but also its consent. This is especially true if a state's right to rule mainly relies on output- or performance-based legitimacy[6] which is by definition closely related to governance effectiveness. This will be described in further detail in section 3.2.1.

Certainly, state legitimacy can accrue from multiple sources independent from the concrete performance and output of political authorities, this includes for instance democratic procedures regulating the access to power. In this study, though, I focus on the concept of performance-backed legitimacy as I follow the argumentation that "a political order that does not perform well will ultimately be considered illegitimate no matter how democratic the policy making process" (Risse & Kleine 2007: 74). I argue that a state is granted legitimacy based on evaluations of the output it produces, i.e., the "performance, effectiveness, and quality of the services and goods the state delivers" (Bellina et al. 2009: 15). It must be conceded that there is no linear relationship between governance effectiveness and state legitimacy; high levels of performance barely suffice to create a fully legitimate state, while poor performance does not necessarily compromise it (Easton 1965: 286ff). Anyhow, most theoretical approaches in this field cite performance as a non-negligible source of legitimacy (e.g., Levi 2018; Gilley 2009).

3.2 Fiscal Contract Theory

At this point, the core concepts of the fiscal contract haven been introduced which brings me to its mode of operation and thereafter to a description of what is theoretically expected when external actors enter the contractual relationship between state and society.

3.2.1 The Mutual Exchange Relationship between Citizens and the State

As it has already been touched upon in section 3.1.3, many states justify their legitimacy claims to a significant extent by the outputs they produce, which, as I argue, are most strongly expressed through the provision of public services because of the direct impact they have on people's daily lives. The idea behind the fiscal contract rests upon a logic of reciprocal (material) exchange between the state and its citizenry which is to be considered as a contractual

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[6] Scharpf (1999) has introduced the concept of "output legitimacy" in the case of the European Union, arguing that governance effectiveness is a vital source of legitimacy.

connection between taxpayers and state institutions (Nyamapfeni 2021: 69). Citizens are expected to obey the rules of the state and to pay taxes while they receive public services in return (Timmons 2005; Levi 1988). At least in democracies, taxation is the result of a bargaining process between the state and its citizens on how much taxes must be paid and what citizens can expect in exchange. In this bargaining process, the state seeks to collect revenues and legitimize its power in order to reduce its cost of governing whereas taxpayers are motivated to pay just enough so that the state can produce the desirable services (Bräutigam 2008: 12; Moore 2008: 45; Feld & Frey 2007: 104). In other words, tax compliance creates a "reservoir of expectations" towards the state since people renounce on a part of their personal income and transfer it to the state which is supposed to use this (additional) revenue for public welfare (Risse & Stollenwerk 2018: 314). This form of trading service provision for tax payments underlines the mutual dependency between the two entities as taxes constitute an important source of revenue for many states and, concurrently, citizens need to rely on the provision of certain services which cannot or only insufficiently be replaced by private actors as they require structural presence and legal frameworks. Hence, the political importance of taxation is not limited to the raising of revenue but is crucial to states for the framing of their ties with society, which are a precondition for a social contract constituted by bargaining around taxes (Prichard 2015: 5; Moore 2008: 35). There are many structural factors shaping this strategic interaction between taxpayers and the state, e.g., political institutions and tax systems, cultural norms, the potential of (collective) tax resistance, the political salience of taxation, and the presence of alternative revenue resources (Prichard 2015: 68ff.; Sacks 2011a: 27; Bräutigam 2008: 6ff.). For a successful exchange relationship between taxpayers and the state as service provider, it is crucial that citizens are convinced that state authorities are able and engaged in serious efforts to deliver the promised returns in an honest and non-corrupt way, respecting prevailing standards of procedural fairness and non-excludability (Levi & Sacks 2009: 316; Levi 1988: 60f.). This building of confidence in the state's competence and willingness to fulfil its part of the fiscal contract is a successive process and depends widely on the state's responsiveness to people's needs. If this trust proves to be justified, citizens reward the state by positively evaluating its performance and continuing to comply with tax obligations and other regulations, which again, endows the state with power and financial means that it can use to further provide for the citizenry.

This dynamic results in an interrelation of state legitimacy and governance effectiveness which Schmelzle (2011) and Schmelzle & Stollenwerk (2018) describe as the *virtuous circle of governance*. Conversely, when service quality is low, people express their dissatisfaction by

negatively evaluating government performance. In this context, the initial level of service provision and the subsequent expectations are important parameters in the equation of people's judgement of the state and their compliance with its regulations. For instance, establishing a minimum level of basic services in an environment which has previously suffered from a lack thereof will lead to a more pronounced increase in state legitimacy than quality improvements of already satisfactory services (Brinkerhoff et al. 2012: 285). Yet, when people feel that their state executive distributes the benefits of tax revenue unevenly across different (social) groups in the country or improves services for one group at the expense of another, they judge state institutions to be discriminatory and corrupt and subsequently withdraw their trust and quasi-voluntary compliance which finally results in a *vicious circle of governance* where the state lacks its primary resource to exert power and to perform its basic tasks (Mcloughlin 2018; Schmelzle & Stollenwerk 2018). According to Levi and colleagues (2009), apart from the perceived quality of the services provided, procedural fairness in the provision process matters greatly for people's legitimating beliefs. Therefore, in countries with widespread corruption and low levels of trust, people's tax morale is generally less pronounced as they fear that their hard-earned money will not be transferred into social welfare. State-society relationships are deeply strengthened through their engagement within the fiscal contract as both parties become aware of their interdependence, their mutual responsibilities, and their entitlements vis-à-vis the other party (Dolan 2020 145; Moore 2008: 35). Taxation makes citizens aware of what they receive in return for their dollars, how it is provided, and whether it corresponds to the expectations they derive from the fiscal contract. Being financially involved in the output, citizens become interested in how their government spends the money. They constantly re-evaluate government performance according to their experiences and use these evaluations as a yardstick to adjust their behavior accordingly (Mcloughlin 2017: 289; Levi 1988: 62). Doing so, people are more likely to comply with tax obligations if they "observe a direct relationship between their contributions and the services they receive" (Sacks 2011a: 25).

In the absence of legitimacy based on quasi-voluntary (tax) compliance, citizens – especially in countries with low administrative capacity – must be constantly incentivized to pay their taxes either by the prospect of (personal) benefits or by severe sanctions since it would be rational for each individual to avoid their tax obligations and "free ride" at the expense of fair-minded taxpayers (Feld & Frey 2007: 105; Tyler 2006: 22). Due to subsequent declines in public revenue, a high number of free riders would severely undermine governance effectiveness. Indeed, there are also conditions under which it is rational for the state to withdraw from the fiscal contract, i.e., when there are enough alternative resources that ensure

the state's budgetary independence from its citizens or when enforcing tax compliance through deterrence becomes less costly than service provision (Timmons 2005: 535). A system of rewards and sanctions, however, will thrust aside people's voluntary and intrinsically motivated compliance. Usually, using coercive measures is more costly to the state, so it is in its inherent interest to bargain services for revenue, thereby relying on people's legitimating beliefs.

As pointed out, fiscal contract theory focuses on the relationship between taxpayers and the state's executive body. Yet, their (theoretically bilateral) exchange relationship is often extended by a third party, namely non-state suppliers of more or less inclusively provided services such as private actors, NGOs, religious communities, and, to a meaningful extent, international donors of foreign aid. The scope of non-state service provision certainly depends, inter alia, on the state's capacity to fulfil its end of the fiscal contract. The next section gives an overview of the (theoretical) implications of external interference in state-society relations.

3.2.2 When External Actors Enter the Fiscal Contract

Despite its significance for state-society relations, the state is not necessarily the dominant provider of public services in many aid-receiving countries which is, amongst other things, due to a widespread incapacity of tax generation. When state revenues or administrative capacities are insufficient, international donors often fill the gap which, in return, can have severe implications for the fiscal contract as it potentially diminishes governance effectiveness and the government's responsiveness towards the needs of its citizens (Blair & Winters 2020: 131; Dietrich & Winters 2015: 164). Foreign aid – like natural resource rents – is thus often accused to have counterproductive effects on the recipient states' institutional development and quality of governance for which reason the term "aid curse" has been introduced (Djankov et al. 2008: 169). Governments having access to what is often classified as "easy" or "unearned income", such as foreign assistance, feel less incentivized to invest in their tax administration and governance effectiveness than they would if they only – or at least mostly – relied on tax income (Ahmed 2012; Moore 2004). In the worst-case scenario, external funding can become an object of rent-seeking by political elites. Furthermore, non-state actors potentially make service provision even more inefficient and expensive and reinforce unequal access to services as wealthier people can better afford to pay for externally provided services which are often prone to fraudulent behavior (Efobi et al. 2019). Another mechanism through which external service provision might undermine state legitimacy is the perceived incompetence of the state to provide the necessary services and thus to fulfil its end of the fiscal contract in the eyes of citizens. A real or presumed dependence on donors suggests low degrees of willingness or

capacity on the part of political authorities which can disqualify the state as an object of legitimation in the eyes of the citizens (Blair & Winters 2020: 129).

In recent years, external actors have become increasingly eager to brand their aid programs and development interventions. By doing so, they seem to be more successful in enhancing their image as effective service providers than governments, because the latter are seen as the responsible actors in this field, while donors and non-state actors are usually perceived as doing a good deed out of benevolence. When people understand that their government is receiving financial resources from external actors, they feel less obliged to provide the state with tax payments, especially when low-income groups are heavily burdened by taxes (McCulloch et al. 2021: 232f.). Beyond that, the more donors advertise their contributions, the more likely citizens will correctly attribute service provision to them, making it more difficult for the state to claim credit for it, even when it has been indirectly involved in the delivery process (Blair & Winters 2020: 129). Consequently, governments often get sanctioned by their populace for externalizing service provision which, in return, undermines the fiscal contract and the virtuous circle of governance that predicts higher degrees of governance effectiveness based on subordinates' compliant behavior (Stollenwerk 2018: 21f.). If the state does not fulfil its part of the fiscal contract, it may also be held responsible for the poor quality of externally provided services. Hence, external service provision can become particularly harmful to weak and instable states or to governments that build their legitimation on promises of service delivery and increased social welfare (Dietrich & Winters 2015: 165; Bratton 1989: 572). This is especially true, when donors bypass the state, so that the latter is not (visibly) involved in the delivery process or the decision of aid allocation. With a view to implementation effectiveness and organizational performance, DAC-donors usually channel aid through private contractors, local NGOs, multilateral organizations, or United Nations agencies. In this way, they try to circumvent the risk of aid capture, often occurring in contexts of poor state institutions and clientelism (Chasukwa & Banik 2019: 110; Dietrich 2013: 708). This approach comes with a considerable drawback to the domestic state, as Collier argues:

> "The bypass of the state does not build state capacity and may further undermine it. Yet (…) the complete bypass cannot itself be the long-term solution to service delivery. If the state is not involved in providing basic services to citizens, it will be very difficult for it to establish a claim to legitimacy in the eyes of its citizens" (2009: 118).

Additionally, people might fear that external actors exert considerable influence over the state, e.g., in terms of conditionality, thereby reducing the state's responsiveness to domestic

constituencies and citizens' political leverage, then again interfering with state legitimacy and the fiscal contract (Blair & Winters 2020: 129; Sacks 2011b: 6). DAC-donors are usually eager to promote the features of an ideal-typical liberal state, such as democracy, rule of law, and the protection of property rights. However, internal and external expectations of how the state should operate do not necessarily converge and are rarely tailored to local circumstances, leading to a situation in which it becomes impossible for a state to satisfy both sides. Conditional aid places recipient states under external oversight and shifts their accountability relation away from domestic audiences and toward the donor, compromising people's legitimating beliefs (Bellina et al. 2009: 32; Knack 2001: 313).

Nevertheless, there is also valid theoretical argumentation to suggest that foreign aid does not impair legitimating beliefs, at least under certain circumstances: First and foremost, non-state service provision only affects people's perceptions of the state negatively if they expected the state to deliver those services in the first place. In a context of low prior expectations, states do not run the risk of disappointing people and losing legitimacy due to poor performance with respect to service delivery (Blair & Winters 2020: 133f.). Empirical studies have shown that citizens of developing countries generally do not expect their states to be self-sufficient (Dolan 2020; Brinkerhoff et al. 2018; 2016; Mcloughlin 2015; Stel et al. 2012). Since taxes usually affect people directly, low tax rates are experienced intuitively which means that citizens know that their government must rely on alternative sources of revenue to fulfil its duties. Particularly poor people with little tax burden or people living in countries with low fiscal capacities are likely to be indifferent to the source of public services as long as these services are suitable to improve their personal well-being (Sacks 2012: 3). Citizens in developing countries tend to expect their governments to attract external resources and judge their performances partly based on their ability to do so. Sometimes people also interpret aid as a positive sign since donors have chosen their country as a worthy target for financial flows (Dietrich et al. 2018: 136). There even is empirical evidence that residents of developing countries blame local politicians for the lack of aid programs in their constituencies, highlighting people's expectations in terms of foreign assistance (Dolan 2020: 147f.). Insofar international donors contribute to the fiscal contract in aid-receiving countries, especially when aid is conceived as an investment rather than charity, producing mutual benefits. Second, potential misattribution of public service provision might turn out to the advantage of the domestic government. Undeserved credit-claiming by governments for services they did not provide may be successful even when programs are explicitly designed to prevent misappropriation of foreign funding (Cruz & Schneider 2017: 402ff.). Several scholars, among

them Winters and colleagues (2018), found that the presence of foreign aid does not appear to cause any harm to the evaluation of governance effectiveness and state legitimacy as long as citizens attribute the procurement of services to their state. Third, in weak and clientelist states, citizens often assign greater competence to non-state actors. Depending on their experiences with bribes or previous contact with state officials, they may trust external actors more than their own government authorities since donors are often believed to ensure a more equitable access to the services provided (Milner et al. 2016: 241f.). In such a setting, external service provision can enhance legitimacy provided that non-state actors do not compete with the recipient state for citizens' support. Forth, even in contexts where the state is obviously not the dominant supplier of public services, citizens can be trusted to recognize its (indirect) role as a regulator, watchdog, and facilitator. They appreciate when their domestic government remains in the driving seat with respect to the design and allocation of aid projects. Hence, state institutions are likely to gain legitimacy when visibly demonstrating their ability to successfully managing foreign aid and when aid projects reflect the priorities of (local) governments (Barma et al. 2020: 195f.; Dietrich & Winters 2015: 165). Fifth, if cost-intensive large-scale projects can be realized through donor funding, the appearance of improved and modernized services can outweigh the source of funding in the eyes of citizens. Besides, strategic investments in government institutions may also contribute to enhanced governance effectiveness in the long run. Unless governments underinvest in tax collection in response to high aid inflows, state legitimacy can benefit from them (Barma et al. 2020: 197). Lastly, there is an inglorious channel through which aid might strengthen state-society relations: Normally, when donors try to build up state capacity and foster local legitimacy by providing resources, it is crucial that they enjoy a certain level of acceptance amongst the targeted population (Schmelzle & Stollenwerk 2018: 454). However, in some cases, citizens disapprove of aid dependence, especially when it comes with strings attached. In such cases, people – at least those who can afford it – are often more willing to comply with pecuniary government demands in the hope to reduce external influence and therewith to strengthen self-sufficiency of their governments (Bellina et al. 2009: 32).

As a result, it can be noted that "there is no universally applicable rule that non-state [service] provision undermines state legitimacy" (Mcloughlin 2017: 42).

4 Empirical Setting and Hypothesis

Due to the chosen research design, particularly the population-oriented approach, a classical case selection is not appropriate in this study. Nonetheless, some information on the empirical context is indispensable to evaluate what impacts of Chinese aid on state legitimacy

in SSA can be expected which is critical to formulate my hypothesis. The following remarks on governance effectiveness, fiscal capacity, and state legitimacy in SSA should be taken as a grid-like overview rather than universally valid explanations, as their conditions vary greatly not only between but even within countries. Thereupon, I will provide the reader with insights into the Chinese aid regime and its potential impacts on the fiscal contract in recipient countries.

4.1   Sub-Saharan Africa and the Fragility of the Fiscal Contract

Most states being part of my sample have reached independence from their colonial ties during the 1960s or 1970s, thus looking back on a comparatively short history of statehood. During the last five or six decades, these states, emanating from arbitrary demarcations that ignore ethnic, cultural, religious, and linguistic affiliations, had to face the challenge of building modern state institutions and establishing a link between them and their citizenry without being historically imbedded into domestic power relations (Englebert 2000: 76). As many political leaders in SSA are not legitimized via democratic elections or attained their power by promising basic services, governance effectiveness is even more important to be granted legitimacy, for which reason the underperformance of many SSA states in this realm can have detrimental impacts on state-society relations (Peltier 2007:194). As previous research has shown, tax morale in African countries is commonly less pronounced than in developed and transition countries (Nyamapfeni 2021: 4; Ali et al. 2014: 828). The widespread tax avoidance certainly limits the financial leeway of many SSA governments.

Low domestic tax bases, however, are not necessarily the product of Africans' low sense for civic duties, but of lacking tax education and transparency, fueling the level of perceived corruption of tax officials. Despite the central role that taxation plays for the economic and social development of their country, many SSA states show substantial deficits in their tax enforcement. Reasons are, inter alia, limited administrative reach of state institutions, high rates of corruption, the prominence of large informal sectors, or alternative revenues such as resource rents (Fjeldstad et al. 2014: 13) [7]. Due to extensive reforms of their tax systems during the last two decades that now rely on self-assessment, irregular audits, and quasi-voluntary tax compliance, average tax revenues in SSA countries have grown by around two percent of Gross Domestic Product (GDP) between 2000 and 2017, though with significant country performance variations (Albers et al. 2020: 5). The SSA tax-to-GDP ratio in 2018 averaged approximately 15.5 percent compared to an OECD average of 34.3 percent (OECD 2020: 34). Despite recent

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[7] The multitude of reasons for tax compliance and avoidance in Africa have been discussed in detail by Nyamapfeni (2021), Moore et al. (2018), Ali et al. (2014), and Fjeldstad (2001).

improvements in fiscal capacity, many SSA states do not have the means or the willingness to collect taxes properly (Baskaran & Bigsten 2013: 93f.). Tax enforcement always depends on the taxability of citizens, i.e., their economic situation must allow taxes to be levied on their income without risking increased poverty. Many people in SSA, though, do not earn regular income, practice subsistence farming, or are below taxation limits, thus not constituting an extractable source of revenue for the state (Morrissey et al. 2016: 1690). Evidently, given the limited taxation capacities of many states, their ability to satisfy the needs of their population is particularly low, leading to poorly developed accountability relations between the state and its citizens, particularly in rural areas (Olatunji 2018: 639; Risse & Stollenwerk 2018: 413).

Thus, it comes as no surprise that many SSA countries underperform with regards to public service delivery: In 2019, the general government final consumption expenditure (GGFCE)[8] in this world region amounted to an average of 13 percent of the national GDP; only the region of South-Asia spent less (12 percent) (World Bank 2021a). Disparities between SSA countries with respect to GGFCE are quite large, ranging from 3.6 (Chad) to 38.8 percent of GDP (Lesotho)[9]. The low level and poor quality of public services are particularly noticeable in rural areas, where relations between the state and its subordinates are especially weak (Brinkerhoff et al. 2018: 106; Olatunji 2018: 639). Even when services are available, they are not inclusively accessible, leading to perceived distributive injustice. About one in five SSA surveyed inhabitants report having had to pay bribes to access at least one of the desired services[10]. Reasons for poor public service delivery in SSA are varicolored. Following Collier, "African governments inherited a common model of public service provision from colonial times"[11] which is hardly suitable for today's developing countries (2009: 115). Further, many SSA states are prone to one of the two extremes of statehood which typically do not produce efficient and high-quality public services either because of a tendency towards dictatorship (extreme strong states) or because of the risk of collapsing into clientelism (extreme weak states) (Börzel & Risse 2016: 151; Doormbos 2010: 754ff.). The risk of corruption, clientelism, and misallocation of resources is reinforced by a low internalization of public service norms as well as generally low levels of competence in public administration in SSA (Olatunji 2018: 638; Odaro 2012: 40). Moreover, communities and ethnic tribes often substitute the central government in delivering public services on the local level but are frequently thwarted by failed

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[8] The GGFCE is the rate of government expenditure spent in the public sphere, e.g., on public services.
[9] See *Table A-1* for values of sample countries.
[10] Value based on own Afrobarometer evaluations (section 5.1.1), see also Asunka (2013: 17).
[11] This inherited model implied that one ministry was solely responsible for all actions required to provide, maintain, and evaluate a specific service such as health care or education (Collier 2009: 115).

decentralization policies and insufficient resources or technical capacities (Resnick 2014). Hence, there are few – if any – world regions, where the question of state-society relations becomes more salient than in SSA:

> "The impossibility of establishing even the myth of a social contract, the widespread existence of competing loyalties, and the consequent lack of hegemonic control of the state over society all conspired to undermine the power of the rulers and the effectiveness of their governance" (Engelbert 2000: 92).

Yet, in the light of low tax revenues and, correspondingly, poor governance effectiveness coupled with growing demand for public services due to the young and urbanizing demography, it comes as no surprise that an expanding range of non-state actors have become key procurers of public services in SSA (Mo Ibrahim Foundation 2018: 42). Even though the degree of aid dependency varies considerably, i.e., oil and mineral exporting countries such as Nigeria show lower ratios of Official Development Assistance (ODA) per capita, SSA attracts more foreign assistance than any other world region (World Bank 2021c). The interplay between international donors, NGOs, and private providers has long shaped service delivery in this region in ways that may have hindered national governments in the pursuit of their core public policies, inevitably increasing their reliance on non-state actors and aid flows which, in return, has often resulted in misallocation and under-provision of public services or legitimacy and accountability dilemmas (Ahmed 2012: 163).

4.2   Chinese Aid Regime and its Potential Impacts on State Legitimacy

In addition to DAC-donors, more and more so-called non-traditional donors have directed their aid flows to the African continent during the past decades, amongst which China is by far the most outstanding one. The PRC is often referred to as a "new" or "emerging donor" (Gulrajani & Swiss 2019; Hernandez 2017; Dreher et al. 2011). In fact, China's history as a donor of international assistance[12] traces back in times when the country itself was given development aid by the Soviet Union. In the period of 2000 until 2012, the PRC has become one of the world's largest donors with a focus on SSA. Its aid regime[13] has many unique features which might have contrastive impacts on citizens' legitimating beliefs:

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[12] Due to ideological reasons, Beijing strongly prefers the term "assistance" over "aid" when speaking about financial transfers for the purpose of development (Tseng & Krog 2016: 2; Grimm et al. 2011: 4).

[13] In my conceptual understanding of aid regime, I follow Blair and Roessler who describe it as "the rules, principles and procedures" a donor adheres to when giving aid (2021: 316).

Aid on demand

China has adopted an *aid-on-demand* approach which implies that aid projects are – at least according to official statements – unanimously based on recipient governments' requests, allowing for a strategic use of aid by recipient governments:

> "[T]he demand-driven nature of China's aid allocation process gives the political leadership of host countries substantial leeway to allocate funds to activities and locations that best suit their own interests" (Dreher et al. 2016: 9).

In contrast to DAC-donors which mostly become active on their own initiative and prefer bypassing the state by channeling aid through NGOs, Chinese agencies usually demand a letter from a ministry of the recipient country containing a formal request for a concrete project before directly negotiating so-called "packages deals" with political leaders in the framework of high-level meetings whereupon a project-specific loan agreement is set up by the China Export-Import Bank (EXIM-Bank)[14] (Isaksson & Kotsadam 2020: 27; Lynch et al. 2020: 5). While traditional donors, especially the United States, attach value to the branding of their aid projects and the promotion of their own image amongst the host country's population, Beijing focuses much more on its ties with state officials (Regilme & Hodzi 2021; Goldsmith et al. 2014). Since Chinese authorities are hardly eager to get the applause of local populations, the recipient state remains – at least ostensibly – in the driving seat, leaving enough space for more or less justified credit claiming on the part of the recipient government, and thereby strengthening the state in the eyes of its citizens (Regilme & Hodzi 2021: 119; Kragelund & Carmody 2015: 23). When it comes to negotiating the terms of agreement for development activities, few donors are as accommodative as the PRC, resulting in aid projects that reflect the priorities of host governments, which is favorable for state-society relations at least if these preferences converge with societal needs. Yet, there is a good chance that some political elites in SSA do not always use Chinese aid to boost the welfare of the whole populace but rather to consolidate the allegiances of strategically relevant groups (Briggs 2014: 194ff.). For instance, Dreher et al. (2019; 2016) find a significantly higher occurrence of Chinese aid projects in the birth regions of African political leaders while Xu and Zhang (2020) reveal that Chinese projects in the economic sector tend to benefit economically advantaged groups. Both could lead to perceived distributional inequity. Citizens identifying poor service quality and misallocation of Chinese aid are likely to blame their state officials for failing to effectively

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[14] The State Council's decision whether to fund a project is usually based on the recommendations of the EXIM-Bank which previously gauges the economic costs and benefits (Dreher et al. 2016: 9).

regulate aid projects and donor behaviors on their territory or for being engaged in corruption and clientelism (Sacks 2011b: 10). Thus, the benefits of China's aid-on-demand strategy for state-society relations are offset by a susceptibility to aid capture by political elites, which is likely to erode the fiscal contract in host countries.

Non-interference

Beijing does not shy away from cooperating with autocratic regimes that other donors tend to avoid, such as Zimbabwe, Equatorial Guinea, or Sudan. The Chinese also invest in fragile areas, therewith running "counter to conventional expectations that investors prefer locations that are safer from political risk" (Morgan & Zheng 2019: 558). Chinese strategies in Africa which are tailored to the local needs and circumstances regardless of regime types or political climates have inspired terms such as "all-weather friend" (Alden & Large 2011: 25) or "flexipower" (Kragelund & Carmody 2015: 4). Whereas DAC-donors usually attempt to induce political and economic adjustments on the part of the host governments, thereby often missing the original intention, the Chinese approach "works with rather than against the grain of African state-society formations" (ibid.). Indeed, previous studies find evidence that Chinese aid is either unassociated with institutional qualities or even flows into areas with relatively weak institutions (Guillon & Mathonnat 2020; Dreher & Fuchs 2015). In this spirit, Beijing never tires to accentuate its respect for the recipient states' sovereignty and the fact that it has no intention to interfere in their internal affairs:

> "When providing foreign assistance, China adheres to the principles of not imposing any political conditions, not interfering in the internal affairs of the recipient countries, and fully respecting their right to independently choosing their own paths and models of development" (State Council 2014).

With these words, the State Council substantiates its paradigm of non-intervention and *no-strings-attached* approach[15]. Insofar aid from Beijing is in stark contrast to the OECD approach which makes development aid conditional on long-term political adjustments such as institutional reforms or the implementation of rule of law. While the PRC's non-interference principle is highly appreciated by political elites in recipient countries – particularly those often targeted by embargos, aid conditionalities, and Western attempts of further democratization – critics see it as a "convenient rationale for economic involvement in undemocratic and corrupt regimes" (Isaksson & Kotsadam 2020: 27). On the one hand, respect for national sovereignty

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[15] Even though China's non-interference policy is widely accepted in the academic world, few scholars argue that this principle has come to an end (e.g., Hodzi 2019).

might be beneficial for the recipient state as many Africans disapprove of what they judge to be "Western paternalism" (Oloruntoba 2020: 166). Besides, it prevents accountability dilemmas on the part of the host government, instead transmitting a strong image of the state. On the other hand, there is evidence to suggest that Chinese aid bolsters the persistence of weak institutions and autocratic regimes as its unconditional nature does not exert any pressure for institutional reform while the absence of anti-corruption and transparency standards bears the risk of clientelism and fraudulent behavior which is likely to undermine state legitimacy (Tseng & Krog 2016: 11; Tull 2006: 466f.). In extreme cases, Chinese aid even encourages more repressive practices of host governments against their own populations (Gehring et al. 2019: 36). Hence, the PRC's relinquishment of any control over the objectives and use of the projects installed could lead to lower responsiveness to citizens' needs, impairing legitimating beliefs of less privileged groups.

Chinese economic interests

When granting assistance to developing countries, Beijing places special emphasis – at least rhetorically – on a principle established by former Chinese Premier Zhou Enlai in 1964 which calls for creating a relationship of "mutual-benefits" and "win-win situations" (Bräutigam 2011: 760; Chaponnière 2008: 11). This approach might be motivated by ideological reasons as in China foreign aid is closely related to the image of giving alms which is seen as an immoral act (Grimm et al. 2011: 4). For this reason, Sino-African packages-deals always involve that China gets something in return, e.g., preferential access to natural resources or infrastructural facilities (Alves 2013: 213ff.). Despite the enormous economic imbalance, Beijing has been successful in selling its assistance to SSA as deals on eye-level which is less likely to damage citizens' views of their governments and to erode their legitimating beliefs because aid flows might rather be interpreted as economic investments and a sign of the government's competence to attract foreign funds. Portraying China as the natural partner in the framework of SSC by referring to its own recent development path, the State Council commences its *White Paper on China's Foreign Aid Policy* with the phrase "China is the world's largest developing country" (State Council 2014). The PRC's aid policy has experienced significant changes over the last decades: While it was strongly ideologically motivated during the Mao era, it has since evolved into a far more pragmatic and economically orientated approach (Morgan & Zheng 2019: 1291; Strange 2019: 265). Insofar, Chinese aid allocation is a function of (geo-)political, commercial, and trade-related considerations as several studies have shown (Harchaoui et al. 2021). Besides, Beijing has very concrete interests

in natural resources and engages predominantly in areas with high natural reservoirs (Moyo 2010: 106). Though its attraction to resource-rich countries barely differs from Western patterns, accusations of land-grabbing and extensive resource extraction on the African continent, particularly with respect to oil, minerals, and steel that are critical for China's industrial sector, cannot be hushed (Chen et al. 2018: 612; Dreher & Fuchs 2015: 1018f.; Bräutigam 2009: 277ff.). As large Chinese state-owned enterprises (SOE) are highly encouraged to increase their investments on the African continent ("Chinese firms going out" strategy), the PRC's engagement is strongly business-driven and often contains a mixture of ODA-like and commercial flows (Bräutigam 2011: 756). Hence, the line between concessional finance and other monetary flows from China is often blurred, making it difficult for citizens to distinguish between commercial and development intents (Isaksson & Kotsadam 2020: 27). Despite China's popularity in SSA, concerns about its – partly opaque, partly openly communicated – intentions on the African continent may disqualify this donor in the eyes of citizens as the extended arm of governments in the provision of public services. This is potentially fortified by the fact that Beijing does not participate in any international aid transparency initiatives, thereby raising skepticism amongst citizens.

Project implementation

Another particularity of Chinese aid flows to Africa consists in the targeted sectors and the implementation process. Typical Chinese development investments are directed towards large tangible infrastructure projects, such as the construction of roads, bridges, railways, airports, power plants, stadiums, hospitals, and school buildings (Swedlund 2017a: 399; Bräutigam 2011: 754). Hence, the Chinese tend to invest in areas that are usually financed through tax revenue. In this respect, their projects differ from those of most DAC-countries which generally direct their financial means to rather intangible investments such as promoting human rights, strengthening civil society, or empowering women. The PRC invests enormous sums in its aid projects which are thus often eligible as signboards for the current government as they appear to bring about more "direct and visible benefit to the host country", thereby potentially enhancing people's legitimating beliefs (Wenping 2010: 153). By means of strategic public communication, recipient governments can claim credit for attracting aid in general and certain flagship projects in particular. Furthermore, Chinese construction companies are very efficient when implementing aid projects, rapidly producing visible results that can subsequently be touted to the public as successful undertakings from which all can benefit immediately, thereby increasing people's trust in governance effectiveness (Swedlund 2017b:

128; Esteban 2010: 248). Beijing mostly delivers turnkey projects, that offer little space for involving recipient countries' domestic actors (Wang & Elliot 2014: 1026; Bräutigam 2011: 761). Domestic agencies were involved in only 15 percent of the projects included in the following analysis. The lack of tangible involvement of domestic agencies reduces the state's visibility in the aid allocation process, making credit claiming more difficult as citizens do not associate services with their political authorities. During the implementation process of aid projects, especially in the construction sector, Beijing usually relies on Chinese contractors. SOEs often bring their own manpower instead of hiring locals as many Western donors typically tend to do (Morgan 2019: 393; Alves 2013: 209f.). The strong presence of Chinese workers, though, is not always appreciated by residents who fear that Chinese firms take jobs away from them. This is reinforced by the accusation that Chinese contractors often disregard cultural and ethnic particularities and import low labor, safety, and environmental standards, for which reason local citizens see previously accomplished standards or ethnic privileges endangered by the presence of Chinese firms and fear a race to the bottom (Isaksson & Kotsadam 2018b: 285; Alden & Large 2011: 34). Consequently, citizens might lose trust in state authorities attracting these firms to their country, again decreasing domestic legitimacy.

4.3   Hypothesis Generation

Classical fiscal contract theory suggests that externally provided services decrease perceived governance effectiveness in the eyes of citizens and therewith their willingness to pay taxes as services are funded through alternative sources (Baldwin & Winters 2020: 163f.). Anyhow, it has been theoretically argued in section 3.2.2 that under certain circumstances, externally delivered services can strengthen rather than undermine the fiscal contract in recipient countries. Whether foreign aid weakens state-society linkages is a function of how aid projects are designed, implemented, and distributed, what citizens expect from their governments, in how far they accept external providers and which role the host government plays in the external provision process (Barma et al. 2020: 199; Blair & Winters 2020: 126; Brazys et al. 2017: 232). Against this background, precise theoretical predictions about the effect of Chinese aid on state legitimacy in SSA are hardly possible. Borrowing from case-study language, the environment under consideration shows both, features of a most- as well as a least-likely case scenario according to Levy (2008: 12). As far as China's donor activities are concerned, I argue that they offer enough scope for strategic use on the part of recipient states to boost people's legitimating beliefs. Even though people might not be fully informed about every detail of Chinese aid, they can be trusted to intuitively capture its broad implications.

Table 1 summarizes the characteristics of China's aid regime outlined above and their predicted effects on state legitimacy in the recipient country.

Table 1: China's aid regime and its predicted effects on state legitimacy

Attributes of Chinese Aid Regime	Predicted Effect on State Legitimacy	Explanations for Predicted Effect
High aid levels/large-scale projects	+	High visibility of provided services/ prestige projects
Non-interference/ "No-strings-attached" policy	+	Absence of paternalism/ no accountability dilemmas
Cooperation with autocratic leaders	–	Undemocratic structures are reinforced
Low level of culture-sensitivity	–	Risk of non-responsiveness and missing equitability with respect to services provided
Aid on demand	+	Recipient countries can claim ownership of aid projects/government-driven aid design
Low levels of transparency and accountability	–	Risk of elite capture, clientelism, and unfair procedures
Disrespect for labor and environmental standards	–	Fear of race to-the-bottom of previously accomplished standards
Limited branding	+	Easier credit-claiming of domestic authorities
Aid tied to donor procurement	–	Domestic agencies rarely involved in the implementation process
Rhetoric of SSC and mutual benefits	+	Perceived government competence in terms of aid attraction/no charity
Rapid implementation	+	Quickly noticeable progresses
Economic/resource interests	–	Fear of overreaching the state/exploiting the country (resource extraction/land grabbing)
No bypassing	+	Negotiable aid terms/no legitimacy dilemmas
Total	**(+)**	

On that note, I predict positive rather than negative effects of Chinese aid on state legitimacy in SSA. Nonetheless, aid from China is not to be expected to produce unambiguous results, and SSA as a world-region, despite sharing many similarities, is very diversified with respect to service provision capacities, taxation, and the degree of aid dependency, therefore, the strength and even the sign of the effect might differ across countries for which reason the overall impact is unlikely to be very pronounced. In sum, however, I presume SSA inhabitants expect their states to rely on foreign funding, thus accepting externalized provision of public

services at least when this provision process satisfies certain criteria. Having said this, the central hypothesis which will be tested in the analysis is as follows:

H: *SSA citizens exposed to Chinese aid projects are (slightly) more likely to attribute empirical legitimacy to their state.*

5 Data and Empirical Strategy

In this chapter, I will present the reader with the data sources, variables, and the estimation strategy that will be applied in the following analysis.

5.1 Data Sources

For my analysis, I rely on data from two different sources, three survey waves as well as a dataset with information on Chinese aid projects which will be presented in the following.

5.1.1 The Afrobarometer

One of the two data sources is the *Afrobarometer*, an independent pan-African research institution based in Accra, which periodically conducts public attitude surveys on political, economic, and social matters on the African continent. To date, seven Afrobarometer survey waves have been conducted, of which I will use waves four through six, covering a total of seven years and, after restricting the sample, 28 SSA countries (*Table A-5*). The interviews are conducted in person at the respondents' homes. The interviewer is sent to a randomly selected household to question a randomly selected member of that household in the respondent's language of choice (Afrobarometer 2014: 1). Aggregated results from Afrobarometer surveys are representatives of larger groups since they are aligned to national probability samples of the overall voting age population of each country. Original sample sizes range between 1.200 and 2.400 individuals per country[16] (ibid.). Generally, Afrobarometer survey data is freely accessible, but since my estimation strategy requires geo-referenced data, specifically processed and non-public versions of the datasets have been requested for the following analysis. Geo-coding includes longitudes and latitudes of all survey clusters which consist of one or more geographically close villages or an urban neighborhood that can be matched with geographical coordinates of China's aid projects (section 5.3.1) (BenYishay et al. 2017). Precision codes provide information on the geo-referencing quality.

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[16] Sample sizes have an average margin of sampling error of a maximum of 2.8 percent around the 95 percent confidence level (Afrobarometer 2014: 1).

5.1.2 AidData

As of 2008, there is no systematic official data sharing on Chinese aid flows. Reasons for the decision of non-reporting might be that Beijing tries to avoid too much transparency, expectations, or comparison with DAC-donors (Gulrajani & Swiss 2019: 356; Grimm et al. 2011: 3). Strange et al. assume that the PRC generally refuses to comply with OECD standards as this would support traditional donor patterns (2017a: 938). For this reason, it is almost impossible to acquire reliable information on Chinese foreign aid related activities. The most encompassing and systematic preparation of disaggregated Chinese aid projects has been undertaken by Strange and colleagues (2017a) and continued by Dreher and colleagues (2019) in the framework of the AidData project located at William & Mary's Global Research Institute (AidData 2018). Employing *Tracking Underreported Financial Flows* methodology described in Strange et al. (2017b), the authors gathered information on individual Chinese aid projects using newspaper articles, radio and TV transcripts, websites of recipient government agencies, and other reports. For the following analysis, I draw on the most recent version of *Global Chinese Official Finance Dataset (Version 1.1.1),* covering project dates from 2000 until 2014[17] (*Figure 1*).

Figure 1: Total number of Chinese aid projects in SSA per year (2000 – 2014)
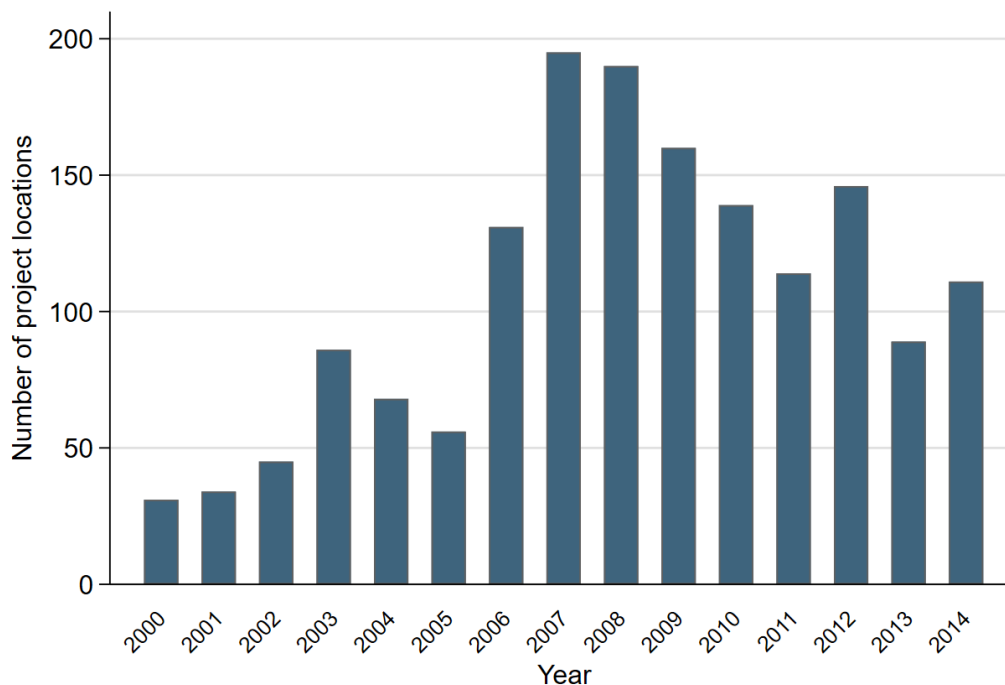
Note: Only sample countries and projects with precision code equal to or below 3 included.

Source: Own Graphic. Data from AidData (2018)

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[17] During this period, retractable financial aid flows from China to Africa reached approximately 121 billion dollars (Dreher et al. 2019).

The unique feature of this dataset is that geographic coordinates (latitudes and longitudes) are assigned to the listed aid projects and information on the precision of project locations is given, thereby enabling geo-matching procedures with geo-coded survey data. A single project can have different recorded locations. Amongst others, the dataset provides information on agreement, start, and end dates of projects, sectors targeted, flow classes, and agencies involved in the implementation process, allowing for in-depth analyses on Chinese foreign assistance. Despite the pathbreaking nature of this data collection, there are several missing or contradicting values related to project dates, complicating the process of data editing.

5.2 Measuring Legitimating Beliefs

As pointed out, state legitimacy is not an easy concept to grasp much less to measure on a quantitative basis. Social scientists have developed several indicators which are more or less appropriate to approximate legitimacy within survey research[18]. Recapitulating the learnings from section 3.1.3, legitimate power requires "evidence of consent by the subordinate to the particular power relation", especially in form of tax compliance (Beetham 1991: 16). Following this line of thought, the act of consent must be measured to quantitatively approach the level of empirical legitimacy. For my analysis, I rely on tax morale as a well-established proxy which has been proposed by Levi, Sacks, and Tyler (2009) as well as Gilley (2009) and has found broad usage in further studies related to state legitimacy in developing countries (Baldwin & Winters 2020; Dolan 2020; Dietrich et al. 2018; Stollenwerk 2018; Bodea & LeBas 2016; Sacks 2012; 2011a; 2011b). Following the reasoning of fiscal contract theory, this indicator suggests that recognizing the state's right to levy taxes is a sign for citizens' approval of the state's power as citizens would not voluntarily cede their hard-earned money to a state which they do not deem legitimate. All three survey waves under consideration include a question suitable to measure people's tax morale which will serve as my central dependent variable (DV):

> "For each of the following statements, please tell me whether you disagree or agree: The tax authorities always have the right to make people pay taxes" (Afrobarometer 2017: 27; 2015: 28f.; 2010: 23).

The corresponding answering scale ranges from one ("strongly disagree") to five ("strongly agree"). *Figure A-5* shows the distribution of responses. For the purpose of my estimation strategy, I dichotomize this variable by coding agreeing attitudes as one and disagreeing or indifferent attitudes as zero. Yet, I conduct a robustness test using the original

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[18] For a detailed assessment of potential indicators for legitimacy and their strengths and weaknesses, see von Haldenwang (2016) or Gilley (2009; 2006).

Likert scale. Although there is good reason to assume that "if people think the state is allowed to raise and collect taxes, they are also likely to comply with [its] regulations", I rely on a second survey question to consider the validity of this statement in the present case (Stollenwerk 2018: 76). Afrobarometer respondents are asked whether they already have refused or would refuse to pay their taxes[19]. This question has already been used in a related study by Marineau (2020). Although there is justified criticism about tax-based measurements of legitimacy in the context of developing countries (e.g., Dolan 2020), there is hardly a suitable alternative (section 7.2).

5.3   Estimation Strategy

In the purpose of examining the causal effect of an exposure to Chinese aid projects on people's quasi-voluntary compliance with fiscal obligations as an indicator for empirical legitimacy, I employ different inferential strategies that also address potential endogeneity problems which will be explained in the following sections.

5.3.1   Spatial-Temporal "Difference-in-Difference" Type Estimation

Foreign aid – whether it comes from China or DAC-donors – is never distributed randomly, some areas are more likely to be targeted by aid projects than others (Findley 2018: 361). This is especially critical in the light of China's aid-on-demand approach and its very strategic proceeding in this sphere that serves, for instance, to ensure privileged market access (Harchaoui et al. 2021: 185; Dreher & Fuchs 2015: 1018). This being said, ignoring the selection effect of aid allocation within the following analysis would be myopic as spurious correlations, not captured by available control variables, can be caused by different parameters, e.g., a region's economic condition, its infrastructure, the occurrence of natural resources, activities of different (DAC-)donors, institutional quality, population density, or the previous supply situation in terms of public services (Knutsen & Kotsadam 2020: 4). All these factors can affect both, the decision on allocating aid projects and people's legitimating beliefs, potentially causing severe endogeneity problems. As I expect respondents living in aid-targeted areas to differ systematically from others with regards to their attitudes towards the state, it would be problematic to derive causal effects on empirical legitimacy from a direct comparison between respondents living in aid-targeted areas to those living in areas without Chinese aid (Isaksson & Kotsadam 2018: 149). Trying to avoid results that are confounded by unobservable time-invariant characteristics which influence the choice of projects sites, I extract the selection effect of project allocation from the overall Chinese aid effect, leaving me with the causal effect

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[19] For detailed information on (re-coded) variables, see Codebook (Appendix, p. viii-xiv).

of Chinese aid on people's tax morale. This is done by comparing the tax morale of respondents living close to active projects to those living in areas with yet inactive projects which will be explained in greater detail below.

Spatial-Temporal Analysis

As mentioned in section 1.2, I employ a quasi-experimental design with two measurement phases (pre- and post-treatment). Since the Afrobarometer does not supply panel data which would allow to precisely observe certain localities before and after a Chinese aid project occurs, alternative strategies must be found to take advantage of the time-variation in the data: The spatial-temporal strategy that I make use of was introduced by Knutsen and colleagues (2017), and transferred to the context of development aid by Isaksson and Kotsadam (2018a; 2018b) as well as Kotsadam et al. (2018).

Exposure to Chinese aid as the central explanatory variable will be operationalized by coding whether each respondent lives within a certain distance of at least one Chinese aid project. Therefore, I first restrict both, project sites and Afrobarometer enumeration areas (EAs), to observations that are geocoded on a precision level[20] equal to three or better, leaving me only with projects and EAs that are identifiable at least at the second-order administrative division (ADM2) (Briggs 2019: 613). Some authors restrict their dataset further, e.g., by exclusively focusing on ODA-like flows (Isaksson & Kotsadam 2018a). Since China's development funds are not classified according to OECD standards, it is tricky to differentiate between different flow classes (Bräutigam 2009: 164ff.). Thus, apart from ODA-like flows, I also allow for Other Official Flows (OOF) and vague flows[21] to enter my sample, creating a sample of 1,582 Chinese project sites. The next step is to geographically match[22] the project coordinates from AidData with the survey clusters' coordinates of all respondents interviewed in Afrobarometer waves four to six. Using geographic coordinates of the survey clusters on the one hand, and those of project sites on the other hand, it is possible to calculate the Euclidean distance between each survey cluster's center point and each project location and to exactly identify which and how many aid projects are located in the vicinity of the respective respondents.

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[20] The precision codes of both data sets rely on the International Aid Transparency Standard (IATS). IATS precision codes used within the analysis are as follows: 1 = "The coordinates correspond to an exact location such as populated place or a physical structure (school/health center)"; 2 = "The location is situated near, in the area of, or up to 25 km away from an exact location"; 3 = "The location is analogous to an ADM2 such as a district, municipality, or commune" (AidData Research and Evaluation Unit 2017: 7f.; BenYishay et al. 2017).

[21] For more detail on flow-classes see *Table A-10* and *Figure A-1*.

[22] The geo-matching process can be retraced in do-file 4a, line 25 to 158.

Figure 2 shows the locations of Chinese aid projects and the survey clusters of my sample after geo-matching.

Figure 2: Allocation of Chinese aid projects and survey clusters
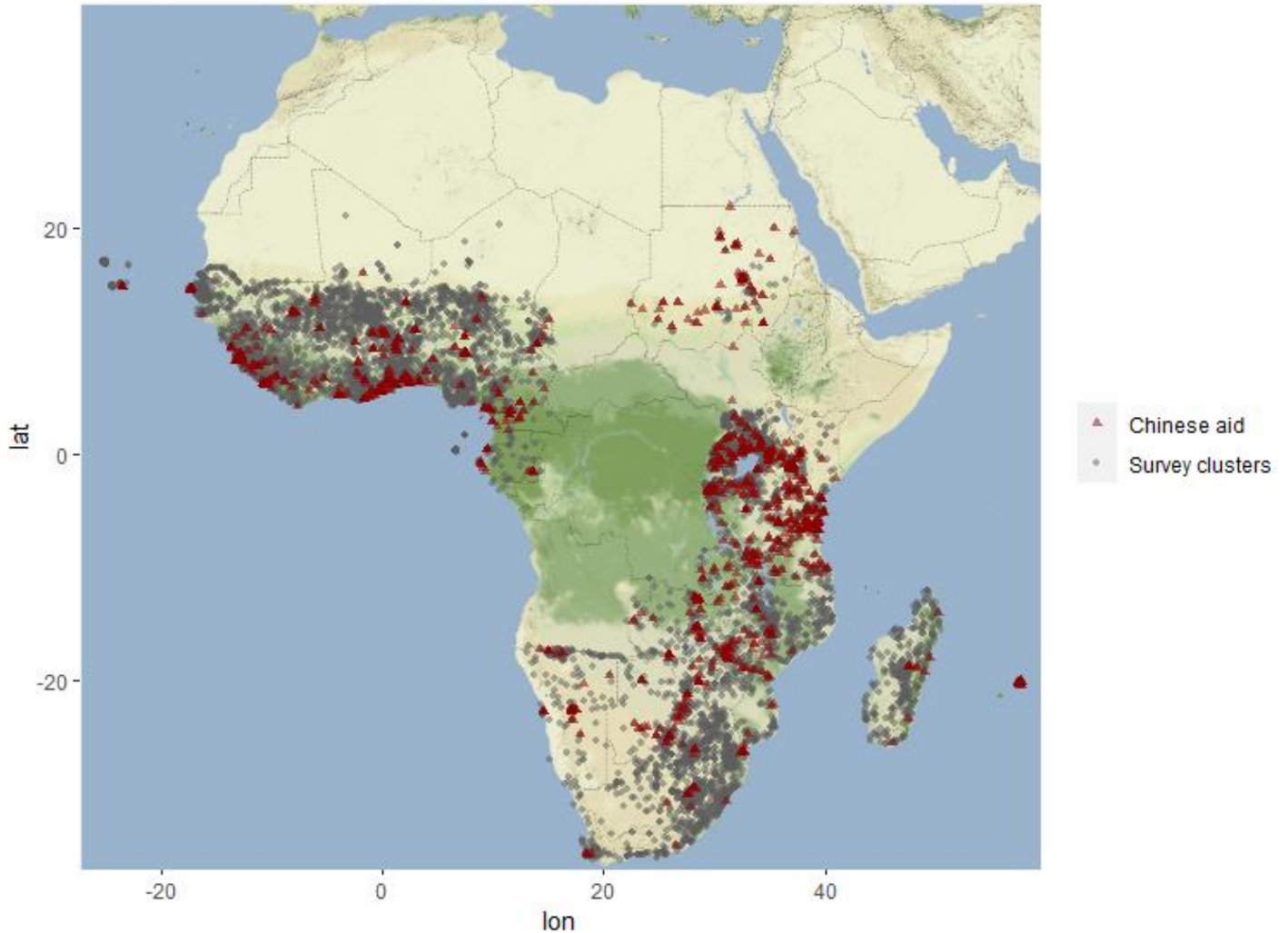
Source: Own graphic. Data from AidData (2018) and Afrobarometer (2016; 2015; 2008)

At this point, a cut-off zone must be determined in order to identify whether a person lives in the neighborhood of a Chinese aid project and will thus be part of the treatment group. Determining the appropriate cut-off distance from an aid project is a balancing act between obtaining a sufficiently large number of treated respondents and ensuring a sufficiently perceptible treatment effect for each of the respondents in the treatment group. For my purposes, a 25 km cut-off zone is judged to be useful. This ambit has been chosen for three reasons: Firstly, it is a distance that allows respondents to hear about and benefit from the provided services because it can be bridged – even in rural areas – by means of public transport within 30 to 45 minutes (Cha 2020: 13). Secondly, this radius is wide enough to produce a considerable

share of treatment group respondents. Thirdly, 25 km is still narrow enough to offset slight imprecisions in the geocoding (BenYishay et al. 2017). Nonetheless, I test the continuance of the effect with diminishing and increasing distance within my sensitivity analysis.

With the cut-off distance in mind, I make use of the given information on start and end years of Chinese projects as well as the survey years to generate three mutually exclusive groups of respondents[23]: The first group (post-treatment group) consists of people who live within a 25 km radius of at least one Chinese aid project that is being implemented at the time of the survey or has been completed no more than one year prior to the survey. Respondents falling into this category are captured by the dichotomous explanatory variable *active25*. The second group which is coded as *inactive25* includes respondents who live within the cut-off zone of an aid project that will be implemented after the survey year on condition that there are no currently active or recently completed Chinese aid projects within the 25 km range. The third group, encompassing respondents who live outside the 25 km cut-off zone and who are per definition not exposed to Chinese aid, form the non-treated control group. Consequently, assignments to pre- and post-treatment groups do not only depend on the time a project starts but also on the year a respondent has been surveyed (see also *Figure A-3*). As some areas are being surveyed earlier than others, all survey waves under consideration have respondents in the pre- and post-treatment group. As far as the control group is concerned, any assignment to a pre- or post-measurement phase would be arbitrary, therefore, all control individuals are compared to both, post- and pre-treatment individuals (Kotsadam et al. 2018: 328).

Above this, there are respondents living near Chinese aid projects that have been completed more than one year before the time of the survey, given that there is no active project in the vicinity. This group forms the omitted category and will be entirely excluded from the analysis. For one thing, they can hardly be regarded as untreated as they have been targeted by Chinese aid, then again, including them in the post-treatment group could bias my results as the effect of service provision on people's tax morale is expected to fade after a certain time. From this point, I restrict my sample to those 28 SSA countries that show both, observations coded as *active25* and *inactive25*. Within my restricted sample, 21.7 percent of respondents are assigned to the post-treatment group (*active25*), 17.6 percent to pre-treatment group (*inactive25*), and 60.7 percent to the control group. Amongst respondents coded as *active25*, the mean distance to the closest aid project is about six km. *Figure 3* shows the geographical distribution of pre-treatment, post-treatment, and control groups.

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[23] The coding of the treatment and control groups can be retraced in do-file 4a, line 200 to 255.

Figure 3: Allocation of pre-treatment, post-treatment, and control group
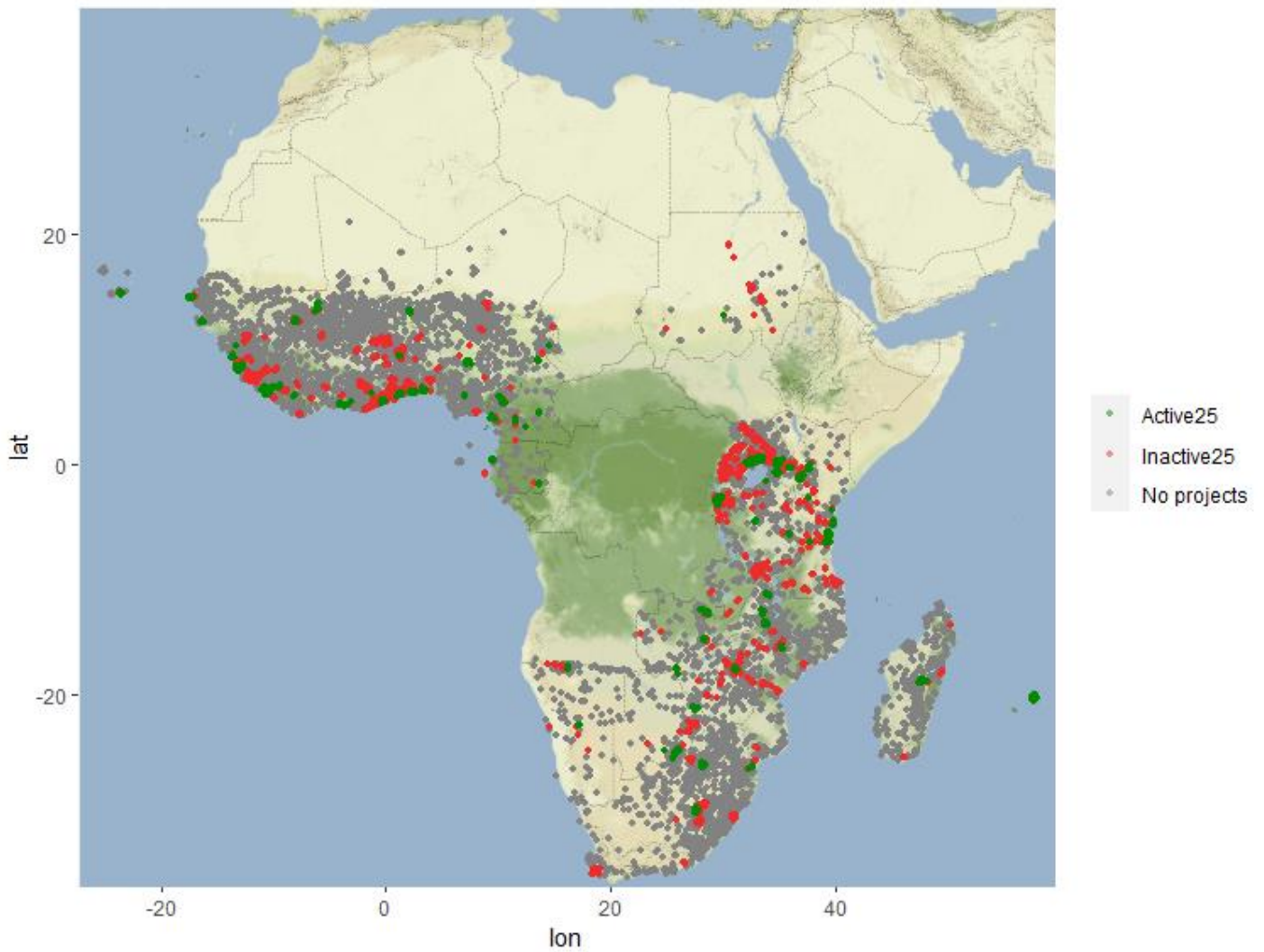
Source: Own graphic. Data from AidData (2018) and Afrobarometer (2016; 2015; 2008)

"Difference-in-Difference"

With these three groups in mind, I draw on a well-established statistical technique – a difference-in-difference (DiD) type estimator. DiD models are useful for measuring treatment effects that are the consequence of a decision made outside the unit of observation, which is clearly the case here. As Villa notes, a "key aspect of DiD is that it facilitates the causal inference analysis of an intervention when time-invariant unobserved heterogeneity might confound a causal-effect analysis" (2016: 52). Thus, in the absence of random assignment, using a DiD type method allows to extract the causal effect of the main independent variable as it controls for any unobservable factor influencing the selection of the project site, and makes it possible to compare two groups with similar propensity to receive Chinese aid (Xu & Zhang 2020: 325). The result of this comparison is the average treatment effect (ATE) of the

implementation of Chinese aid projects in a respondent's vicinity. In contrast to a classical DiD setting that differentiates between four groups (pre-treatment, post-treatment, pre-control, and post-control group), the time-varying treatment occurrences in my data do not allow to differentiate between the pre- and the post-treatment control groups. The resulting baseline regression equation is as follows:

$$Y_{ivct} = \beta_0 + \beta_1 \cdot active25_{it} + \beta_2 \cdot inactive25_{it} + \gamma_c + \delta_t + \lambda \cdot X_i + \varepsilon_{ivct},$$

where the outcome Y *(tax morale)* for an individual i in interview cluster v, country c, and survey year t is regressed on the two main explanatory variables *active25* and *inactive25*. As it will be discussed below, the regression includes spatial *(γ_c)* and time *(δ_t)* fixed effects (FE) as well as a vector of individual-level baseline controls *(X_i)* (section 5.3.3).

To identify the causal effect of being exposed to an ongoing or most recently completed Chinese aid project on citizens' tax morale, I make two consecutive comparisons which allow to disconnect the selection effect from the causal effect of Chinese aid on the DV (Briggs 2019: 613). First, I compare respondents living near currently active Chinese aid projects *(active25 = 1)* to those not living near any Chinese aid projects *(active25 = 0)*, then I compare individuals living near a Chinese aid project that is not yet implemented by the time of the survey but will be in the future *(inactive25 = 1)* to those not living near any Chinese aid projects *(inactive25 = 0)*. The analytical reasoning behind this is as follows: The coefficient β_1 of exposure to currently active Chinese aid projects captures any causal effect of Chinese aid plus any potential selection effect whereas the coefficient β_2 of the exposure to Chinese aid projects that will be implemented in the future only captures the selection effect. This strategy postulates that

> "the same selection process underlies the location of planned and completed [in my case active; ed.] projects, such that respondents living near planned projects serve as valid counterfactuals for those living near completed [active; ed.] ones" (Blair & Roessler 2021: 336).

Subtracting the selection effect of β_2 from the combined selection and causal effect of β_1 leaves me with the parameter difference $\beta_1(active25) - \beta_2(inactive25)$ and consequently with the pure causal effect of Chinese aid on citizens' tax morale (Isaksson 2020: 840). The null hypothesis H_0 – which is to be rejected – is that there is no difference between post- and pre-treatment group members *($\beta_1 - \beta_2 = 0$)*, whereas the alternative hypothesis H_A suggests a significant difference between the two coefficients *($\beta_1 - \beta_2 \neq 0$)*. The F-test given in every model provides information whether there are (significant) differences between the pre- and post-treatment group. Results are considered significant if their p-value is below 0.05.

5.3.2 Linear Probability Model

While a binary DV typically calls for a logistic regression as several assumptions of a linear model are violated, I will still stick to a multivariable linear probability model (LPM) for reasons of interpretation and practicability. Even though the estimations of an LPM can lead to blurred results in some empirical contexts, it is a perfectly legitimate – and under certain conditions a more suitable – option when conducting causal analyses (Gomila 2021; Horrace & Oaxaca 2006). Given a random sample, LPM produces consistent and unbiased results and the usage of an LPM is even more appropriate than a logistic regression when most of the covariates are discrete and take on only a few values which holds for my analysis (Wooldridge 2002: 456f.). Other convenient features of linear models are their computational speed despite the complexity of the dataset as well as the fact that they provide immediate and easy-to-interpret coefficients in terms of probability changes. Converting results of logistic regressions into probabilities is not only more laborious and susceptible to misinterpretation, but also comes with additional assumptions for the model (Gomila 2021: 3; Hellevik 2009: 67). When making predictions, an LPM could have detrimental effects as the estimated coefficients can take values outside the reasonable range of zero to one or even be negative. Since I am not interested in forecasting probabilities but in estimating a causal effect, this pitfall can be neglected in the present case (Gomila 2021: 4; Horrace & Oaxaca 2006: 322). As it can be deduced from the central limit theorem, thanks to the sufficiently large sample size, I also do not have to worry about non-normal distribution of the residuals. An argument against LPMs is that the Bernoulli structure of the error term of a binary DV inherently violates the homoscedasticity condition of linear models which implies constant variance of the error term (Hellevik 2009: 62). Thus, using an LPM possibly results in underestimated standard errors. I address this issue by using heteroscedasticity-robust standard errors (given in parentheses in each model) which are clustered at the geographical interview clusters *(v)* (i.e., at the EA-level) to account for correlated errors. Yet, I also test the robustness of the linear model results by means of a logit and probit model to underpin their validity.

5.3.3 Fixed Effects and Further Control Variables

Using FE which are basically binary group variables is a convenient way to deal with unobservable variance within nested models and to reduce selection bias in the estimation of causal effects (Mummolo & Peterson 2018: 829). The data I use is structured along four different levels: the micro-level (respondents), the subnational regional level, the country level as well as the time-related level (survey years). Instead of using a conventional multilevel-analysis with control variables at each level, I control for spatial and time-related variations in

average levels of the DV by introducing country (γ_c) and year FE (δ_t) into the analysis. They account for unmodeled heterogeneity by holding country- and time-period variables constant and therewith allow separate intercepts for each country and survey year (Wooldridge 2013: 468). This strategy eliminates all between-unit variations and thus prevents that country or survey year specific events determine the variation of the DV, thereby curtailing the explanatory power of the model. The drawback of FE is that it does not control for unobserved country-level predictors that vary over time. Besides, time-invariant macro-indicators cannot be considered anymore since the country dummies explain all time-stable variance at the macro-level (ibid.: 484). When conducting an X-centered analysis without being interested in the estimation of particular country-level coefficients, this is perfectly acceptable, especially since this strategy reduces the risk of disregarding relevant factors whereas omitted variable bias is likely to occur in conventional multilevel analysis with random effects. To avoid collinearity issues due to the nested structure of data, subnational region FE (α_r) will only be included separate from country FE (γ_c).

Including individual-level control variables is usually important to avoid spurious correlations, to improve the fit of the model, and to reduce standard errors of the coefficients, thereby enhancing the precision of the estimates. Given the chosen estimation strategy, though, one must be extremely careful with the use of micro-level control variables as many of these are most likely to be affected by the treatment itself or events directly caused by the treatment which leads to undesirable post-treatment bias (Montgomery et al. 2018). For instance, if Chinese projects attract firms and enhance economic activities in an area, the employment status as a potential control variable could be susceptible to the "bad controls" problem (Angrist & Pischke 2009: 236). Thus, I will only control for standard socio-demographic parameters which are most unlikely to be affected by the treatment status, including respondents' gender, age, rural versus urban residence, and the highest level of education, all factors that potentially influence household income and are thus relevant for tax morale (Blair & Roessler 2021: 347; Nyamapfeni 2021: 119ff.; Richardson 2006: 152f.). I will also control for respondents' religion since religiously socialized people have been found to be less likely to evade taxes because they are often more committed to religious commandments and values shared within a community, preventing them from selfish behavior (McCulloch et al. 2021; Bodea & LeBas 2016). All following models contain these baseline controls as well as country (or region) and survey year FE.

6   Empirical Findings

Figure 4 shows the mean level of tax morale of sample countries subject to the proportion of their residents treated by Chinese aid which varies between 6 and 42 percent, except for Mauritius where 92 percent of surveyed residents are exposed to Chinese aid.

Figure 4: Mean *tax morale* subject to the proportion of treated respondents per country

Note: Dashed line indicates sample mean. Mauritius excluded due to extremely large treatment group.
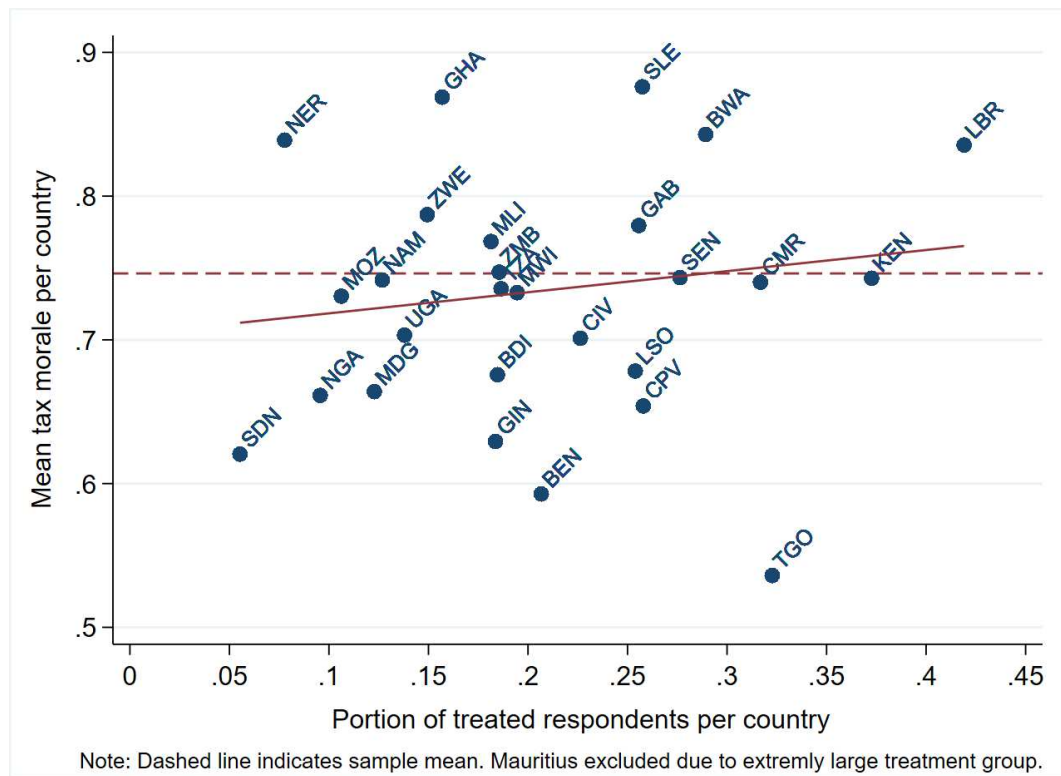
As it can be taken from the graphic, the relationship is at best moderately positive. This, however, speaks neither for a causality nor for a lack thereof, which will be analyzed in detail in the following sections. Therein, I will also present the reader with robustness tests, contrast the influence of Chinese assistance with WB aid projects and explore heterogenous effects across different macro-contexts and targeted multi-sectors as well as potential mechanisms that could be responsible for the unveiled effect.

6.1   Main Results

Tax morale

The results presented in the first row (M1) of *Table 2* confirm my hypothesis. As it has been anticipated, the impact of respondents' geographical proximity to Chinese aid projects on their legitimating beliefs towards the state is positive but not very sizeable: Regarding the parameter difference between *active25* and *inactive25*, it can be noted that respondents living

in a 25 km distance to at least one active Chinese aid project are, ceteris paribus, 3.2 percentage points more likely to express a high tax morale compared to respondents living in areas where Chinese projects will be implemented in the future. This effect is statistically significant at the 1 percent level as given by the p-value of the F-test. Put in relation to the DV's overall sample mean, this effect corresponds to a difference of 4.4 percent and is thus relatively small.

Table 2: Baseline models

VARIABLES	(M1)[24] Tax morale	(M2) Tax morale	(M3) Tax compliance	(M4) Tax compliance
active25	0.018***	0.012	0.009	-0.013
	(0.006)	(0.008)	(0.007)	(0.009)
inactive25	-0.014**	-0.009	-0.015**	-0.019***
	(0.006)	(0.006)	(0.007)	(0.007)
$\beta_1 - \beta_2$	**0.032**	**0.022**	**0.024**	**0.006**
F-test: $\beta_1 - \beta_2 = 0$	20.79	6.44	8.07	0.34
p-value	0.000	0.011	0.005	0.559
Mean DV	0.73	0.73	0.72	0.72
Observations	93,661	93,661	73,878	73,878
R^2	0.035	0.063	0.033	0.066

Note: Baseline controls and survey year FE included. Country FE in M1 and M3, region FE in M2 and M4. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Looking at the parameter of future projects *(inactive25)* in isolation, it turns out that its coefficient is negative and statistically significant at the 5 percent level, indicating that Chinese aid projects tend to be sited in areas of comparatively lower pre-existing levels of tax morale. This is not surprising since China's aid-on demand approach allows political elites in recipient countries to allocate the projects according to their needs (Dreher et al. 2016: 9). Areas with lower levels of tax morale and – if fiscal theory holds – lower levels of state legitimacy might be relevant for a regime to consolidate its power. Even though, political leaders might not know the level of tax morale in these areas, they are probably aware of the structural factors that account for such variance in tax morale: For instance, it is possible that tax morale in future Chinese project areas is slightly lower because of less public service provision or less alternative aid programs, so political leaders attract Chinese aid to areas that other donors tend to avoid or that have less personal or monetary resources for public service provision (Tull 2006: 468). From a political-strategical point of view, it is sensible to allocate externally provided public

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[24] The model including coefficients of all individual control variables is given in *Table A-15.*

services in such areas in order to (re-)build citizens' trust in state institutions and their competence in managing societal needs (Kirchler et al. 2008: 211). This could reinforce people's willingness to pay taxes, since "the satisfaction of taxpayers with what they get from the other contract party, that is, the government, mainly influences their tax morale" (Feld & Frey 2007: 106). The coefficient's sign of *inactive25*, however, confirms the rightfulness of my estimation strategy since neglecting this tendency would have resulted in a severe underestimation of the causal effect of China-provided public services.

The coefficient of determination is relatively low (R^2=0.035) which means that – despite controlling for the entire survey year and time-stable country variation as well as for several socio-demographic parameters – only 3.5 percent of the total variance in the DV are explained by the model. However, this is not unusual in an X-centered research design aiming to assess the ATE rather than to exhaustively explain outcome variation (Mahoney 2008: 422).

Tax collection in SSA often takes place at the sub-national, sometimes even at the local level, with tax administration capacities often varying widely and depending on many parameters, such as human and financial resources in tax departments, the degree of urbanization, the level of corruption and shadow economy in a region, its proximity to the capital, ethnic affiliations etc. (Fjeldstad et al. 2014: 7f.: 17). In addition, it is common practice in many subnational regions of SSA to make a direct contribution to community projects in lieu of paying taxes (Bodea & LeBas 2016: 225; Prichard 2015: 7f.). Due to these facts, it is reasonable to assume that tax morale and tax compliance differ systematically not only across but also within countries. To eliminate any potential bias in this regard, I also control for region FE by including 368 subnational region dummies (M2) and observe – despite an expected decrease in the unveiled effect – no alarming deviations as the ATE is still positive and significantly different from zero at the 5 percent level. Compared to respondents from the same region or province that live near inactive projects, those living close to active Chinese aid projects are 2.2 percentage points more likely to accept the state's right impose taxes.

Tax compliance

Tax morale reflects someone's "willingness to obey", and therewith, the "value-based" component of people's legitimating beliefs which, theoretically, results in behavioral changes (Levi et al. 2009: 356). When relying on survey data, it is impossible to retrace whether an increased probability to accept a state's right to levy taxes actually translates into corresponding behavioral changes. To compensate for this drawback to some extent, I try to approach the behavioral component of empirical legitimacy by examining the extent to which self-reported

tax compliance changes in the light of Chinese aid (section 5.2). As shown in M3 of *Table 2*, people exposed to Chinese aid projects are, all things equal, 2.4 percentage points more likely to report that they would never refuse to pay taxes than those living close to inactive Chinese aid projects. This effect is also significant at the 1 percent level. Yet, compared to the effect on tax morale, there is a non-negligible difference. In addition, this effect fades when including region FE (M4). Allowing for different intercepts for all regions, I create a more homogenous environment for the comparison between pre- and post-treatment individuals and the control group. The ATE does not withstand these more restrictive conditions. In comparison with control-group members from the same subnational region, there is hardly any difference in the likelihood to report high tax compliance between respondents from the pre- and post-treatment group. All in all, I find limited evidence that increased probabilities for the acceptance of the state's tax sovereignty in the light of Chinese aid engender higher probabilities of behavioral changes in this regard.

In the following, I will exclusively focus on the attitudinal dimension of empirical legitimacy since tax compliance as the DV is not only less reliable as an indicator for empirical legitimacy (section 7.2) but also not available for the fourth survey wave which considerably reduces the size of my pre-treatment group.

6.2   Sensitivity Analysis

The revealed effect of Chinese aid on tax morale is statistically significant but not necessarily economically meaningful. Against this backdrop, it is crucial to verify whether the obtained results hold when altering certain parameters or conditions, for which reason several data- as well as content-related robustness tests will be conducted to probe the stability of the results. All tests include baseline controls as well as country (or region) and survey year FE.

Alternative cut-off zones

I start my sensitivity analysis by determining different geographical cut-off zones that define whether a person counts as treated. Considering the whole restricted sample, the mean difference from a survey cluster's center to a Chinese aid project is 66.7 km which is why I decided on a 75 km cut-off zone as the maximal distance to test. DiD point estimates and the 95 percent confidence intervals (CI) for every cut-off zone are graphed in *Figure 5* (numerical results given in *Table A-17*). The estimations underlying this graphic support my assumptions of 25 km being the most appropriate distance between an aid project and an individual to exert a tangible influence.

Figure 5: Different cut-off zones

Note: DV: Tax morale, CI: 95 %; Baseline controls, country and year FE included.
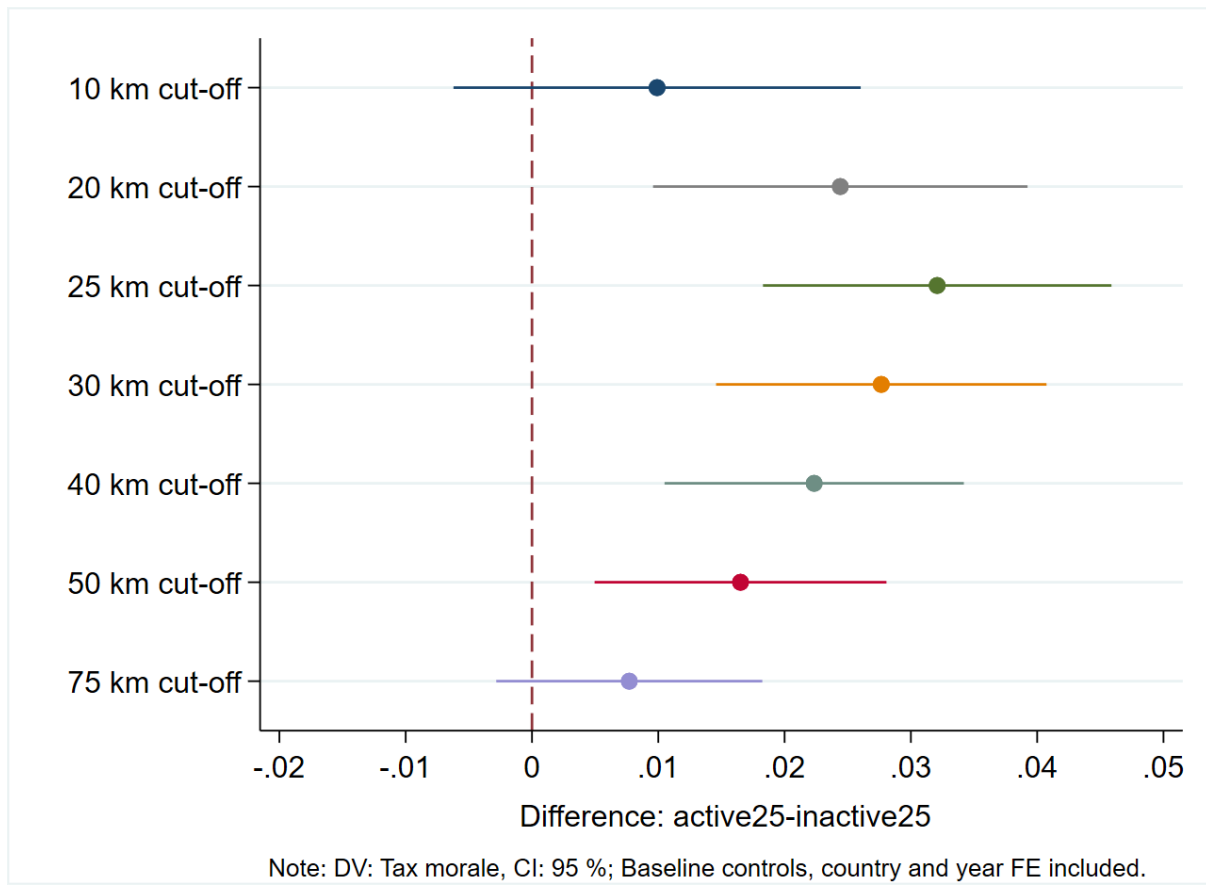
As it shows, the causal effect of Chinese aid projects on people's tax morale is positive over all cut-off zones, reaches its largest extent with 25 km and then fades with growing distance. The differences between pre- and post-treatment group coefficients are significantly different from zero at the 5 percent level for five of the seven cut-off zones. Given the smaller treatment group, a 10 km cut-off zone does not allow for precise estimation for which reason standard errors become quite large, resulting in insignificant results. As the width of the lines (indicating the CI) suggests, estimation accuracy increases the more people are included in the treatment groups. As for the 75 km cut-off zone, the treatment group is diluted because a large proportion cannot be considered as treated since the closest active project is potentially relatively far from their domicile, leading to insignificant results (Briggs 2019: 615).

In *Figure 6*, I plot the mean level of tax morale as a function of the distance between a person's residence and the closest aid project, this time allowing for a 50 km distance to the project. The 50 dots represent equal-sized local averages. The estimates are residualized for country and survey year FE as well as for baseline control variables. It can be noted that the difference in tax morale between people living next to active compared to those living next to inactive projects is relatively large to begin with. With growing distance of the closest project

to a person's residence, this difference shrinks until the lines ultimately cross at 34 km. This implies a zero difference of *tax morale* between respondents in the pre- and post-treatment group when the closest project is 34 km far from their home. This comes as no surprise as greater distances render the use of public services more difficult which is especially true for rural areas and regions with less well-developed infrastructure (Brinkerhoff et al. 2018: 110f.).

Figure 6: Mean *tax morale* and distance to the closest aid project (*active50* vs. *inactive50*)

Note: Only areas without suspended projects included.
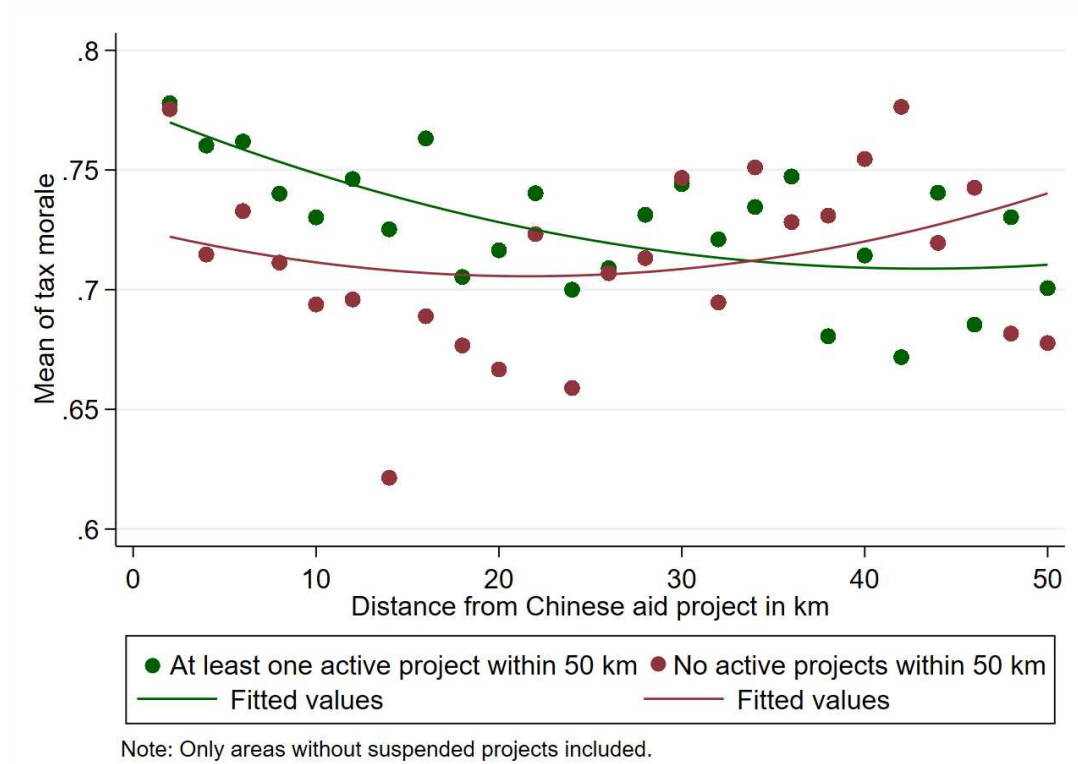
Contextual plausibility

As demonstrated in *Figure 7* (numerical results given in *Table A-18*), the results remain robust over a broad spectrum of further alternative specifications. A potential concern within my model is that information on upcoming projects has been released by the time of the interview so that respondents of the pre-treatment group have already updated their expectations which, in return, influences their legitimating beliefs (Mcloughlin 2017: 54). To exclude any possible bias in this regard, I omit all observations for which future projects will start one year after survey and who are thus likely to already know about them. In this way, the effect becomes even more salient. This finding supports previous evidence that information on forthcoming aid projects already makes people update their attitudes towards the state (Winters et al. 2018: 471; Sacks 2011a: 7). Another test addresses the concern that some projects might be given an unobserved higher priority than others, potentially leading to stronger effects on tax morale.

Consequently, I control for immediate realization, as I argue that prioritized projects will be implemented shortly after they have been agreed on. Immediate realization is given when a project starts in the year of its agreement. Eliminating immediately implemented projects from the sample, the size of the effect as well as its statistical significance remain stable.

Figure 7: Content-related robustness tests

Note: DV: Tax morale CI: 95 %; Baseline controls, country and year FE included.
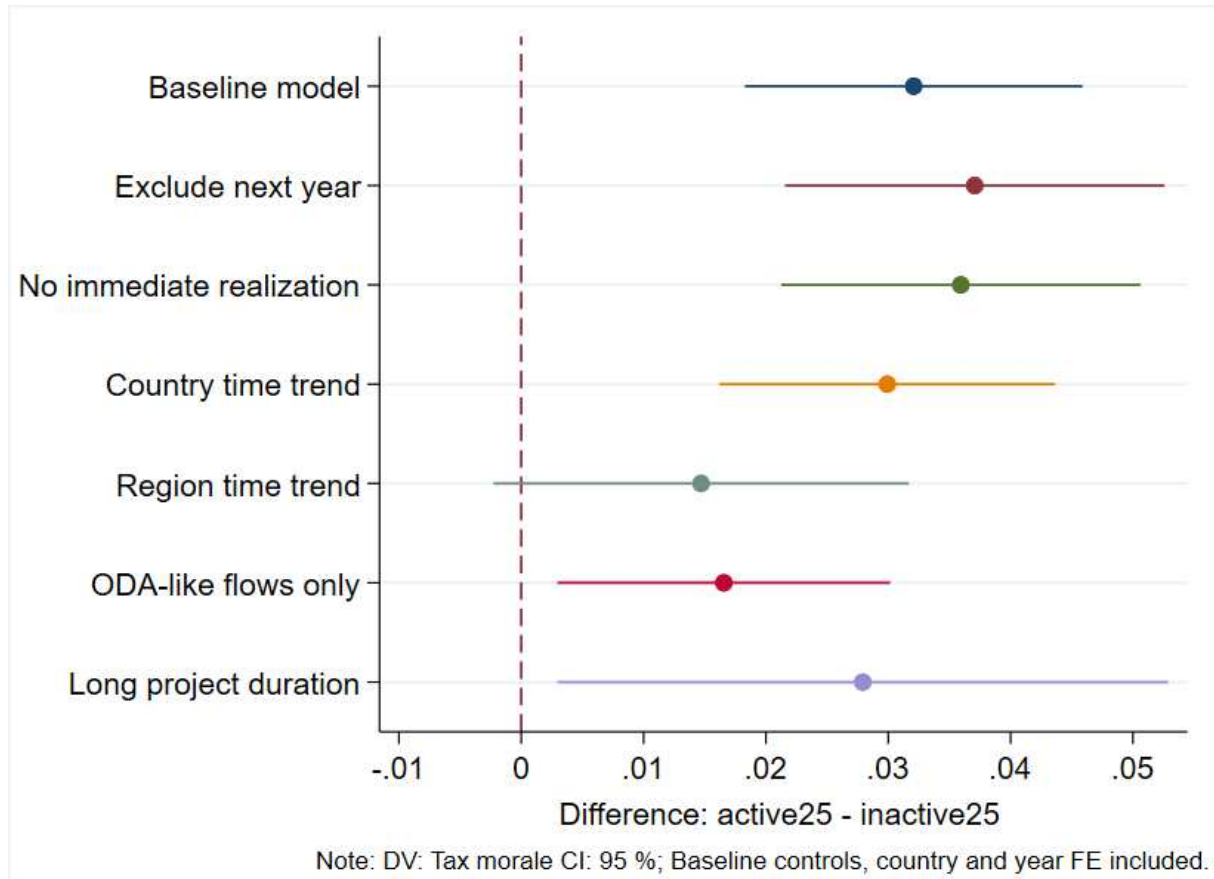
Further, though already having controlled for variation in average levels of tax morale across time (year FE) and space (country and region FE) in the baseline models, there is a good chance that time trends in tax morale differ across and even within countries caused by national or sub-national tax system reforms, changes of government, the overall amount of aid a region receives etc. (Isaksson 2018: 846). Therefore, I interact all country (and region) dummies with a discrete variable capturing the sequence of survey years. While not passing the test for region-specific linear time trends[25], the effect still withstands controls for country-specific linear time trends, again strengthening its validity as I compare people under more similar conditions.

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[25] Region-specific linear time trends include interaction effects of seven survey years and 368 sub-national region dummies, controlling for an enormous amount of potential variation. Not passing this robustness test can be judged as statistically uncritical as the effect is still significant at the 10 percent level.

Beyond that, it has already been mentioned that the PRC rejects any DAC-inspired form of aid transparency, leading to conceptual differences with respect to the classification of aid flows which hardly aligns with the OECD definitions of foreign aid (Strange et al. 2017a: 938; Bräutigam 2011: 753). Besides, it has been found that in contrast to ODA-like flows, OOF are targeted to regions with higher institutional quality which usually favor market growth and form a convenient environment for new sales markets for Chinese products (Harchaoui et al. 2021). China benefits from African markets as outlets for low-priced products which are equally loved and hated by Africans (Esteban 2010: 233f.). To reduce the risk of a bias brought about by commercially motivated investments in terms of OOF and vague flows, I test whether results remain stable when focusing on ODA-like flows only. As it can be seen, omitting non-ODA-like flows reduces the effect considerably but still does not lead to a worrying change in the results. This, however, suggests that Chinese more commercially motivated development investments are an important driver of the overall effect. The last content-related robustness test concerns long implementation periods as rapid improvements in the supply of public services have been identified to exert larger effects on legitimacy than slower (Mcloughlin 2017: 38). The Chinese are usually known for their efficient implementation, but large-scale projects can still be time-consuming, potentially decreasing their positive influence on empirical legitimacy (Swedlund 2017a: 405). Indeed, when focusing on projects that have started more than three years ago, the effect of an exposure to Chinese aid declines a little to a 2.8 percentage points increase in the probability to report high rates of tax morale, albeit remaining statistically significant. Given the smaller post-treatment group, the estimates become less precise.

Statistical robustness

After having addressed several content-related issues, I will also eliminate some statistical doubts (*Figure 8 and Table A-19*). It has already been touched upon in section 5.3.2 that the results of an LPM should always been confirmed by a logit or probit model. In this case, the results remain stable when performing logit and probit estimations, backing up the appropriateness of the LPM[26]. Even eliminating a considerable proportion of observations from the sample by omitting the fourth or fifth survey wave does not render results insignificant. Admittedly, the conventional threshold for statistical significance is exceeded when eliminating the sixth survey wave, which comprises a major part of observations and the largest post-

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[26] As the DV *tax morale* originally has an ordinal scale, I also conduct a robustness test with an ordered logistic regression. Due to the different scaling, results are to be found in *Figure A-6*.

treatment group within my sample and is thus most relevant for this analysis. Since the effect remains qualitatively the same, this can be judged as negligible, but could indicate that later Chinese aid projects differ from earlier ones (section 7.3). Enlarging the control group by using the full sample of SSA countries instead of a sample restricted to countries that comprise post- and pre-treatment group members neither yields very different results.

Figure 8: Data-related robustness tests

Note: DV: Tax morale; CI: 95 %; Baseline controls, country and year FE included.
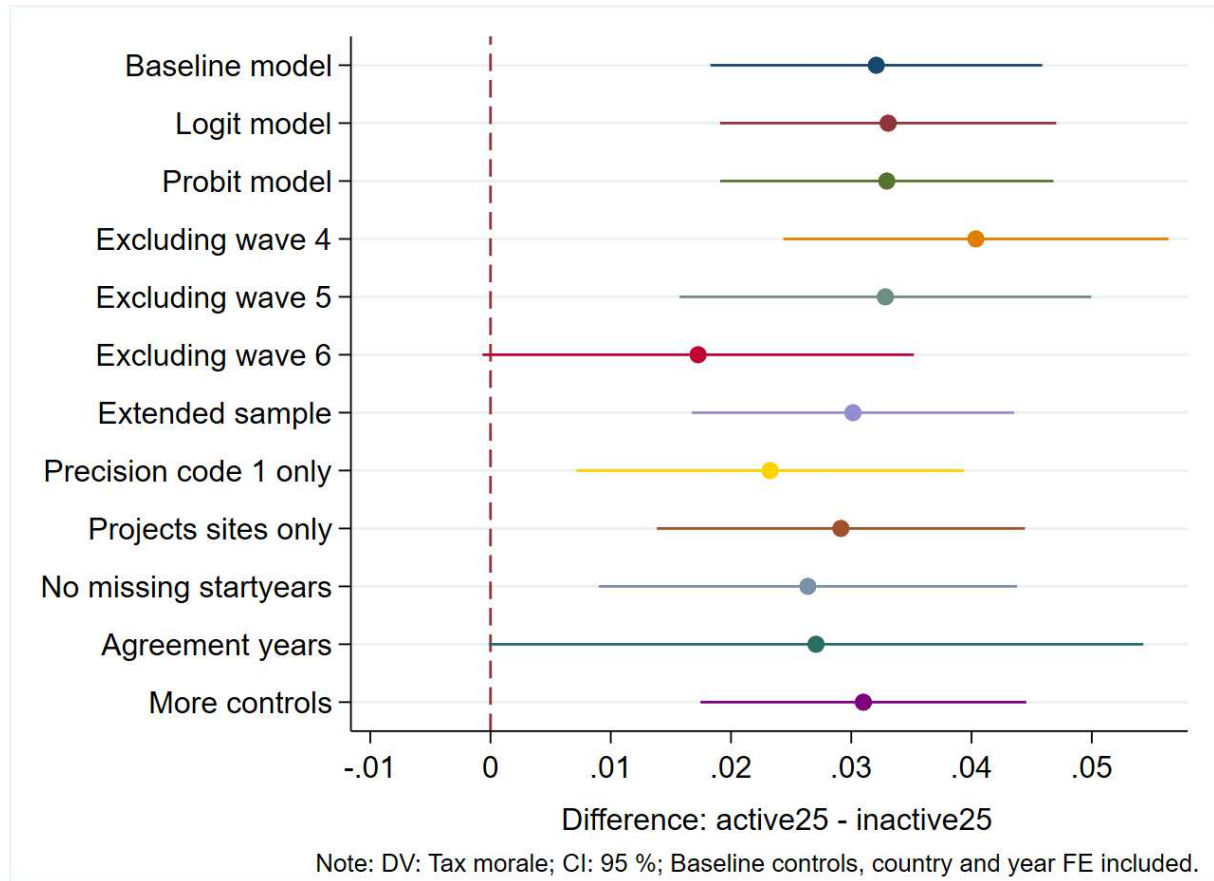
Further concerns address the potential inaccuracy of geo-codes on the second and third precision level. When restricting the sample to those observations that are coded on the most precise level according to IATS (section 5.3.1), the positive impact of Chinese aid shrinks a little but remains relatively stable and highly statistically significant despite the large sample reduction. Next, restricting the sample to respondents living around aid projects (either active or inactive) allows for a direct comparison between the pre- and post-treatment group rather than a comparison in relation to respondents with no Chinese projects nearby (Isaksson & Kotsadam 2018a: 152). Though shrinking a little, the effect does not change to a remarkable extent. Another issue of AidData are missing values of project start years. When eliminating observations with missing start years, the effect of Chinese aid on tax morale is of comparable

magnitude as in the baseline estimation and still significantly different from zero at the 1 percent level despite the huge sample reduction. If one replaces missing values of start years by years of agreement rather than eliminating the observations related to them, the estimate becomes less precise but remains positive. Ultimately, I include three more – potentially endogenous – micro-level control variables to test whether they change the results: employment status, ethnic affiliations, and previously experienced shortage of vital supplies such as food, clean water, or medication. All three variables have been found to be correlated with tax morale: Ethnic affiliations can be relevant when tribes or cultural communities are marginalized in the process of tax bargaining or when tax officers sharing ethnic ties with certain communities agree on favourable tax burdens for this group (Meagher 2018: 11). A person's supply situation with nourishments and health care has been identified as an important predictor for people's wellbeing and thus their attitudes towards the state (Sacks 2012: 13). Further, employment plays a role as people without regular income are often exempt from tax. Including these covariates, the estimated parameter difference is of a similar magnitude as in the baseline model.

Reassuringly, the results of the sensitivity analysis point to a distinct statistical robustness of the unveiled effect and suggest overall contextual plausibility of my findings.

6.3 Heterogenous Effects across Different Macro-Contexts

At this point, it would be fruitful to explore how the revealed effect manifests in different countries. *Figure A-7* gives an impression of country variation. Unfortunately, though, the applied method relies on large samples and the size of treatment groups in many countries do not allow for expressive evaluations. Still, some heterogeneity can be scrutinized by means of different subsamples according to macro-level specifications. For this purpose, I make use of three country-level indicators and divide all observations along the median of the respective indicator to create two almost equally sized subsamples, one with respondents living in countries that rank above the 50th percentile of the indicator and one with respondents living in countries below or equal to this threshold. A similar strategy has been applied by Isaksson and Kotsadam when gauging the effects of Chinese aid on trade union involvement across different country-specific contexts (2018b: 292f.). In contrast to them, I consider time variances in the data, thus people from the same country may be part of different groups, depending on their country's classification at the time of the survey.

First, I verify the assumption underlying my hypothesis that SSA citizens do not expect their states to be self-sufficient providers of public services (section 4.3). Even though this conjecture cannot be proven within this analysis, I can assess its plausibility: For my assumption

to be true, one would predict a more pronounced effect of Chinese aid projects in countries with lower governance effectiveness, as people derive their expectations vis-à-vis the state from their previous experiences in terms of service delivery (Brinkerhoff et al. 2018: 105; 115; Stel & Ndayiragije 2014: 16). To nail this down, I rely on the *Government Effectiveness Indicator* released by the WB which assesses the quality of public and civic services as well as policy formulation and implementation on a scale from –2.5 to +2.5 (World Bank 2021b). Only five sample countries reach positive values during the period under consideration (Botswana, Cape Verde, Ghana, Mauritius, Namibia). The sample's median is equal to –0.65.

Dividing my sample in the described manner, I find that the causal effect of Chinese aid is much more pronounced for respondents living in countries with comparatively lower governance effectiveness (4.9 percentage points) than for those living in better performing countries (1.9 percentage point) (*Figure 9*, numerical results given in *Table A-20*). The estimates of both groups show positive and statistically significant parameter differences. This supports the rightfulness of my previous considerations: Having witnessed poor service delivery by domestic authorities in recent times, people are more inclined to accept non-state service provision or may interpret the attraction of aid as something worth rewarding (Blair & Winters 2020: 134). Contrary, in countries that usually perform quite well in this regard, people expect their states to provide services without external support and "are likely to interpret the assistance as a signal that domestic institutions are too weak or corrupt to do so on their own" (ibid.). An alternative explanation could be that basic upgrades starting from low levels of service provision induce greater effects on tax morale than improvements of already satisfactory public services (Brinkerhoff et al. 2012: 285).

As already argued in section 3.2.2, donors of foreign aid are key providers of public services in many developing countries and substitute public duties when the state is incapable to do so. Still, aid does not necessarily flow into countries with low governance effectiveness; if anything, the opposite appears to be true since the amount of ODA per capita in current US-dollars and the indicator for governance effectiveness are moderately positively correlated in my sample (Pearson correlation coefficient: $r = 0.25$). This is not very surprising as traditional donors tend to allocate their aid to countries with higher institutional quality that are typically more effective with respect to service delivery (Winters 2010: 454). Therefore, it is also worth examining the effect of Chinese aid in countries with comparatively more and less ODA-dollars per capita (World Bank 2021c). It turns out that people living in countries with ODA inflows above the median (57.16 US-dollars) of all sample countries are 4.3 percentage points more likely to accept the state's right to tax when being exposed to active rather than inactive Chinese

aid projects (corresponding to a 5.7 percent difference in relation to the DV's mean), while the effect is less pronounced and only significant at the 10 percent level in countries with lower ODA inflows.

Figure 9: Heterogenous effects across different macro-contexts

Note: DV: Tax morale; CI: 95 %; Baseline controls, country and year FE included.
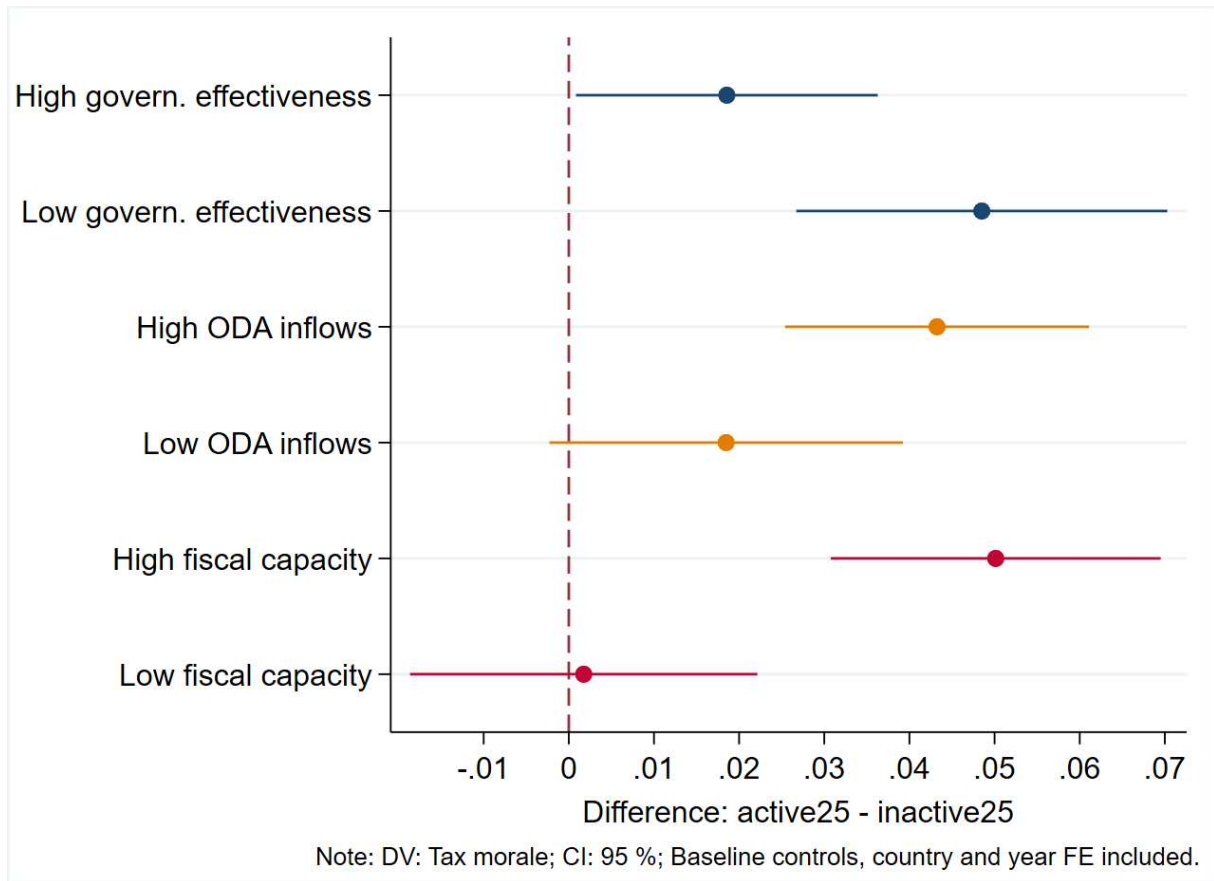
This could have three potential reasons: First, residents of highly aid-dependent countries are more accepting with respect to foreign aid and thus reward their governments for attracting foreign funds, seeing this as the part of the fiscal contract to be fulfilled by the state (Dolan 2020: 147). Second, having experienced aid from traditional donors whose demands for structural adjustments "were deeply unpopular with populations" makes citizens appreciate the outstanding characteristics of Chinese aid discussed in section 4.2 (Swedlund 2017b: 8). Third, it could be a sign that citizens want to their aid-dependent states to become more self-sufficient and less dependent on foreign funds by strengthening the domestic fiscal contract.

Furthermore, the importance of effective taxation for the functioning of the fiscal contract has been expounded in chapter 3. Hence, whether additional (externally provided) public services in a person's vicinity affect their tax morale depends on the pre-existing level of tax enforcement and the formalized arrangement of the tax-bargaining process (Fjeldstad et

al. 2012: 8). Tax morale is not expected to rise when the state does not engage in serious efforts to raise revenue from its citizenry (section 3.1.3). On the other hand, if taxes are collected effectively, people have higher expectations vis-à-vis their governments to provide public services independently. In that sense, the following two sub-samples are based on an indicator named *Fiscal Capacity*, developed by Albers et al. (2020) and specifically tailored to the context of developing countries. This indicator measures a state's average real tax revenue per capita deflated by the nominal day wage[27]. The values in my sample vary largely between 0.7 percent (Nigeria 2015) and 85.6 percent (Botswana 2012), the median is at 11.2 percent. It turns out that the effect of Chinese aid is much more pronounced in countries with comparatively high fiscal capacity: People living near active Chinese aid projects are 5.0 percentage points more likely to report high rates of tax morale than their pre-treatment counterfactuals (corresponding to a 6.7 percent difference in relation to the DV's mean). In contrast, for respondents living in countries with a fiscal capacity below the sample's 50th percentile, I find null effects of Chinese aid on people's acceptance for the state's right to levy taxes. This does not imply that people in such countries do not reward their governments for (externally) provided services or that their confidence in the state's competence to contribute to public welfare does not increase. Yet, it illustrates that externally delivered public services can hardly strengthen (or undermine) a domestic fiscal contract which is basically non-existent. Alternatively, a moderating factor might be at work, such as time-varying levels of corruption that could be responsible for lower fiscal capacity and keep people from adapting their tax morale. Either way, if recipient states take aid as an excuse to underinvest in their tax apparatus, the establishment of a fiscal contract becomes more and more difficult, supporting the concerns often expressed by representatives of the aid curse argument, predicting less domestic revenue generation in the presence of foreign aid (e.g., Ahmed 2012; Knack 2001).

6.4   Including World Bank Projects

In the next step, to contrast the effect of Chinese aid projects with foreign assistance from other donors, I introduce 6,332 WB aid projects in my analysis for which geo-referenced data is also available on a disaggregate level from the same source (AidData 2017). To match WB project sites with Afrobarometer survey clusters and to assign respondents to the control and treatment groups, I employ the exact same procedure as described in section 5.3.1. Amongst

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[27] Underlying data and the formula for calculating the indicator have been kindly provided by Thilo Albers and co-authors. The indicator focuses on hard-to-collect taxes, leaving aside trade and resource taxes. Detailed descriptions on the indicator can be found in Albers et al. (2020: 3f.). Data is missing for Cape Verde, Malawi, Mauritius, and Mozambique.

the variety of donors present in SSA, I choose the WB as there is a relatively large geographical overlapping between Chinese and WB aid projects due to the widespread engagement of the WB on the African continent. *Figure 10* displays WB along with Chinese project sites after geo-matching and shows that they are often co-located while some regions are clearly dominated by one of the two donors.

Figure 10: Locations of Chinese and World Bank projects
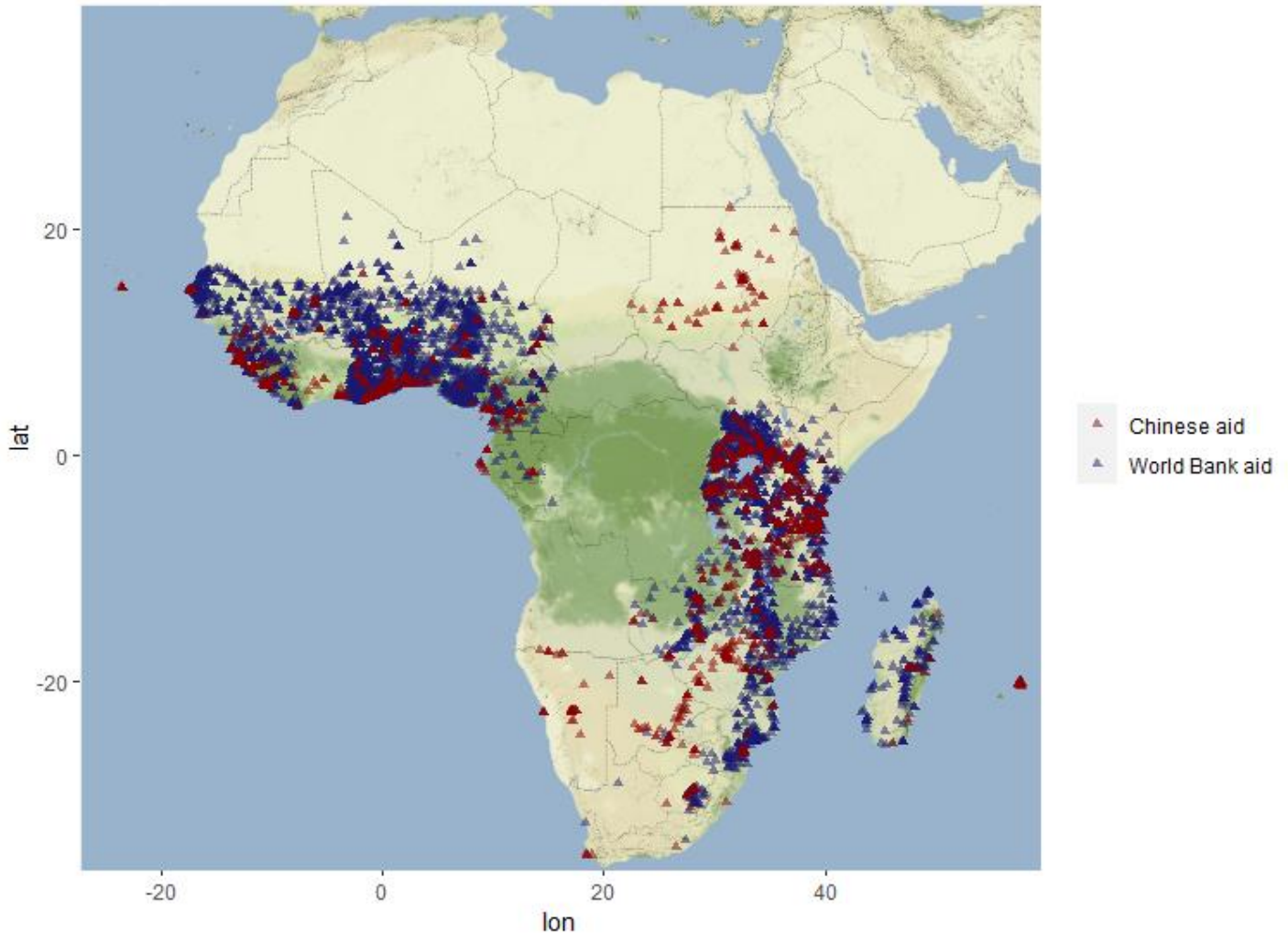
M1 in *Table 3* introduces active WB projects as a control variable in the estimation of the causal effect of Chinese aid projects. Subsequently, the unveiled effect becomes slightly weaker (3.1 compared to 3.2 percentage points). This could indicate a previous overestimation of the effect, but only to a very limited extent, and only if the presence of active WB aid projects is truly exogenous to Chinese aid. Possibly, aid projects from other donors also cause omitted variable bias, but this is likely to be of minor importance given the limited impact of controlling for WB projects.

Table 3: World Bank projects

VARIABLES	(M1) Tax morale	(M2) Tax morale	(M3) Tax morale	(M4) Tax morale
active25	0.016**		0.013	–0.032
	(0.006)		(0.015)	(0.020)
inactive25	–0.015**		– 0.021*	
	(0.006)		(0.011)	
WB active25	0.010*	0.012**	0.009	0.008
	(0.006)	(0.006)	(0.006)	(0.006)
WB inactive25		0.011		0.015
		(0.012)		(0.012)
*WB active25 * active25*			0.003	
			(0.016)	
*WB active25 * inactive25*			0.007	
			(0.013)	
*active25 * WB active25*				0.050**
				(0.021)
*active25 * WB inactive25*				–0.025
				(0.033)
China: $\boldsymbol{\beta_1} - \boldsymbol{\beta_2}$	**0.031**		**0.034**	
F-test: $\beta_1 - \beta_2 = 0$	19.12		3.66	
p-value	0.000		0.056	
World Bank: $\boldsymbol{\beta_3} - \boldsymbol{\beta_4}$		**0.001**		**–0.007**
F test: $\beta_3 - \beta_4 = 0$		0.01		0.40
p-value		0.921		0.528
China: $(\boldsymbol{\beta_1} + \boldsymbol{\beta_1} * \boldsymbol{\beta_3}) - (\boldsymbol{\beta_2} + \boldsymbol{\beta_2} * \boldsymbol{\beta_3})$			**0.030**	
F-test: $(\beta_1 + \beta_1 * \beta_3) - (\beta_2 + \beta_2 * \beta_3) = 0$			15.02	
p-value			0.000	
WB: $(\boldsymbol{\beta_3} + \boldsymbol{\beta_3} * \boldsymbol{\beta_1}) - (\boldsymbol{\beta_4} + \boldsymbol{\beta_4} * \boldsymbol{\beta_1})$				**0.067**
F-test: $(\beta_3 + \beta_3 * \beta_1) - (\beta_4 + \beta_4 * \beta_1) = 0$				6.33
p-value				0.012
Mean DV	0.73	0.73	0.73	0.73
Observations	93.661	93.179	93.661	93.179
R^2	0.035	0.037	0.035	0.038

Note: Baseline controls, year and country FE included in every model. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Applying my baseline estimation to WB projects in the next step provides information on whether the revealed effect is attributable to foreign assistance in general or is caused by the characteristics of the Chinese aid regime as predicted by the assumptions underlying my

hypothesis (Cha 2020: 16; Knutsen & Kotsadam 2020: 2). A statistically significant positive point estimate for $\beta_3 - \beta_4$, the parameter difference of *WB active25* and *WB inactive25*, would suggest an aid-induced rather than a China-induced effect on people's legitimating beliefs. This, however, does not seem to be the case. Regarding the causal effect of WB aid, the parameter difference between the post- and pre-treatment group is equal to zero (M2). In contrast to Chinese aid, WB aid does not exert any statistically significant influence on tax morale. This finding substantiates what has already been assumed in section 4.3: Chinese aid is of distinctive nature in the donor community and yields different effects at the local level. The increased likelihood to attribute empirical legitimacy seems to be a consequence of Chinese aid rather than aid in general. Hence, the observed impact of people's tax morale in the case of Chinese aid projects is not necessarily transferable to other donors, at least not to multilateral donor organizations. Certainly, it is possible that the different results for WB and Chinese aid simply reflect differences between bi- and multilateral donors rather than differences between China and DAC-donors in general. Moreover, one should not neglect that the pre-treatment group of the WB sample is very small compared to the post-treatment group, for which reason it is more difficult to estimate the true causal effect of an exposure to WB aid. With this caveat in mind, one should be careful to draw any general conclusions from these null results.

Another striking aspect is that the allocation patterns of WB aid differ from those of China. As opposed to the Chinese case, the selection effect of WB projects captured by *WB inactive25* is positive and statistically significant. This reflects that the WB tends to select its target areas according to institutional quality and transparency standards as well as lower prevailing corruption levels, factors that contribute to higher initial degrees in tax morale (Winters 2010: 453ff.).

Neighboring projects from different donors can lead to what Brazys and colleagues refer to as "fog of aid" which results in less controllable donor activities and higher rates of perceived corruption, often outweighing the positive effects of aid (2017: 250). Therefore, in the following model, I examine whether Chinese aid has different effects on empirical legitimacy for WB-treated people and respondents not living next to active WB projects. For this purpose, I interact the two main explanatory variables, *active25* and *inactive25* respectively, with *WB active25*. As it can be taken from M3 in *Table 3*, the causal effect of an exposure to Chinese aid is slightly smaller amongst WB-treated respondents (3.0 percentage points increase in the likelihood to report high tax morale). Conversely, when there are no active WB projects nearby, the effect is a little more pronounced than the overall effect (3.4 percentage points). However, this value just exceeds the conventional threshold for statistical significance, being only significant at the

10 percent level. This is likely due to the smaller group size of people living far from active WB projects, which produces a less precise estimation. Based on these results, it can be assumed that the presence of WB projects has hardly any substantial influence on the effect of Chinese aid on people's legitimating beliefs.

Contrariwise, exploring whether the causal effect of WB projects is different for China-treated individuals and those not living close to active Chinese projects, yields more pronounced results: In the presence of Chinese aid, people living near active rather than inactive WB projects are 6.7 percentage points more likely to express a high acceptance of the state's right to tax (M4). Compared to the overall null effects induced by WB projects, this mediating effect of Chinese aid which concerns roughly one quarter of all individuals exposed to active WB projects is quite meaningful. A potential mechanism driving this effect could be the competition with a donor adhering to the non-interference principle. Hernandez (2017) found evidence that the presence of Chinese development activities in a region make other donors lower their conditionalities and become more accommodating with respect to the recipient government's requests, potentially strengthening the state in the eyes of its subordinates. At this point, however, such conjectures are inevitably speculative. The underlying issue, though, merits further examination within the scope of future research, especially since it contradicts the "bad neighbors"-argument made by Brazys and colleagues (2017).

In sum, the learnings that can be taken from this section are that Chinese aid, in contrast to WB aid, does not only positively affect SSA citizens' tax morale in a direct but also in an indirect manner by influencing the impact that emanates from WB aid.

6.5 Heterogenous Sector Effects

In addition to their (obvious) material dimension, public services always have a normative component (Krasner & Risse 2014: 547). In this section, I will examine in how far the effect of Chinese aid on people's legitimating beliefs differs across the targeted sectors. Even though, "there is no universal hierarchy of services that are more or less significant for state legitimacy", varying effects across sectors on people's tax morale are to be expected for multiple reasons (Mcloughlin 2017: 45). To start with, it is to be distinguished between economic and social sectors, whereof the latter are most crucial to cover people's basic needs and thus have the potential to influence their legitimating beliefs. In this context, Sacks (2011b) attaches special importance to basic health services due to their acute significance and immediate impact on people's daily lives. Anyhow, this does not necessarily mean that such services have the most pronounced impact on state legitimacy when delivered by external actors

since some services require a direct state involvement during the provision process in order for the population to accept and consume them in the first place (Schäferhoff 2014: 686f.). This is especially true for services that have strong cultural or religious markings, such as education and health care (Mcloughlin 2017: 176; Batley & Mcloughlin 2010: 135). Others argue that non-state substitution of public service provision in the social domain is much more sensitive than in the economic domain as the former is strongly perceived to be at the core of the fiscal contract whereas the latter might as well be externalized (Cha 2020: 10). Hence, based on fiscal contract theory, it is extremely difficult to hypothesize within which sector one can expect the largest effects of foreign aid on empirical legitimacy. Generally, public services in order to exert any tangible influence on people's attitudes towards the state must be pivotal, highly visible, and inclusively accessible. The portfolio of Chinese aid projects with respect to targeted sectors is relatively diversified *(Table A-11)*. To identify broader sector effects, I assign the targeted sectors to the following three domains according to the OECD Reporting System classification: *Social Infrastructure*, *Economic Infrastructure* as well as *Government and Civil Society (Table A-12)* (OECD 2021). The last-named multi-sector mostly entails projects targeted towards the construction of administrative and representative buildings, sports stadiums, or event halls while *Social Infrastructure* includes domains such as water supply, health care and education. Projects in the field of transport and storage, industry, or energy belong to *Economic Infrastructure*.

Table 4: Heterogeneous sector effects

VARIABLES	(M1) Social Infrastructure	(M2) Economic Infrastructure	(M3) Government & Civil Society
active25	0.018***	0.019***	0.026***
	(0.006)	(0.006)	(0.007)
inactive25	–0.017**	–0.011	0.016
	(0.007)	(0.007)	(0.017)
$\beta_1 - \beta_2$	**0.035**	**0.030**	**0.010**
F test: $\beta_1 - \beta_2 = 0$	18.74	13.00	0.29
p-value	0.000	0.000	0.590
Mean DV	0.74	0.73	0.73
Observations	84,194	86,090	71,564
R^2	0.035	0.034	0.032

Note: DV: *Tax morale*. Baseline controls, country and year FE included. Robust standard errors in parentheses, *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Subsequently, I partition respondents into three subgroups in a way that allows to calculate the ATE of Chinese aid for each multi-sector (Xu & Zhang 2020: 326). Doing so, I omit all observations from the respective subsample that are coded *active25* or *inactive25* but do not have any (active or inactive) project in the multi-sector under consideration nearby. As it can be taken from *Table 4*, *Social Infrastructure* projects are the only ones systematically directed to areas with a significantly lower pre-existing level in tax morale as the coefficient of *inactive25* suggest (M1). The positive effect of Chinese aid on people's tax morale is also most pronounced for this multi-sector: People exposed to active rather than inactive *Social Infrastructure* projects are, all things equal, 3.5 percentage points more likely to accept the state's right to levy taxes. In contrast, people exposed to active as opposed to future *Economic Infrastructure* projects are only 3.0 percentage points more likely to affirm the state's right to collect taxes. Chinese projects in economic sectors have been debunked as causing severe violations of African labor law (Isaksson & Kotsadam 2018b: 395). This might be responsible for the somewhat smaller effect on people's tax morale. Moreover, service provision in these domains is indeed highly visible and barely controversial but also less pivotal for citizens' lives than social sector projects aimed at satisfying basic needs. Besides, their outcomes are easily measurable, that is, people are usually more likely to identify low quality roads than poor health care services (Mcloughlin 2017: 44). Taking a different perspective, it is surprising that SSA citizens appear to appreciate service delivery by an external actor in such vital domains as water supply and health care. Moreover, *Social Infrastructure* projects are usually more exclusive and susceptible to fraudulent activities (Efobi et al. 2019: 259). Anyhow, there is no meaningful deviation in the effect across both multi-sectors.

With respect to projects targeted towards the *Government and Civil Society* sector, there is no evidence for a significantly positive effect of Chinese aid on tax morale. This might derive from the fact that this multi-sector predominantly contains prestige projects which are mostly targeted towards privileged groups and political elites, making it more vulnerable to elite capture and less welfare-enhancing for the general public (Xu & Zhang 2020: 327). Contrary to the others, projects targeted towards this sector do not seem suitable to enhance people's legitimating beliefs.

6.6   Mechanisms

As previous studies have found, the causal relationship between service delivery and empirical legitimacy is neither linear nor direct (section 2.2). Apart from the physical presence of public services, in order to increase people's legitimating beliefs, these services and the

process of their delivery need to satisfy several requirements (Levi et al. 2009: 356ff.). Fiscal contract theory suggests several potential mechanisms that could be responsible for the positive – albeit moderate – effect of Chinese aid on citizens' tax morale: 1st) successful *credit claiming* which implies that the recipient government's perceived performance improves thanks to externally provided services (Cruz & Schneider 2017), 2nd) perceived *fairness and equality of political procedures* since they shape, inter alia, the provision and equitable accessibility of public services (Levi et al. 2009: 356), and 3rd) increased *government responsiveness* which ensures that the services provided serve societal needs (Mcloughlin 2015: 343). I examine these three mechanisms using relevant questions from Afrobarometer (Codebook, Appendix p. xii-xiii). For the first mechanism, I make use of a performance-based indicator: Respondents are asked to rate their government's performance in delivering various public services. From this selection, I pick questions on services that are most visible to citizens' eyes and whose quality can easily be assessed by them: water and sanitation systems, electricity grids, as well as roads and bridges (Mcloughlin 2017: 44).

Figure 11: Mechanisms

Note: CI: 95 %; Baseline controls, country and year FE included.
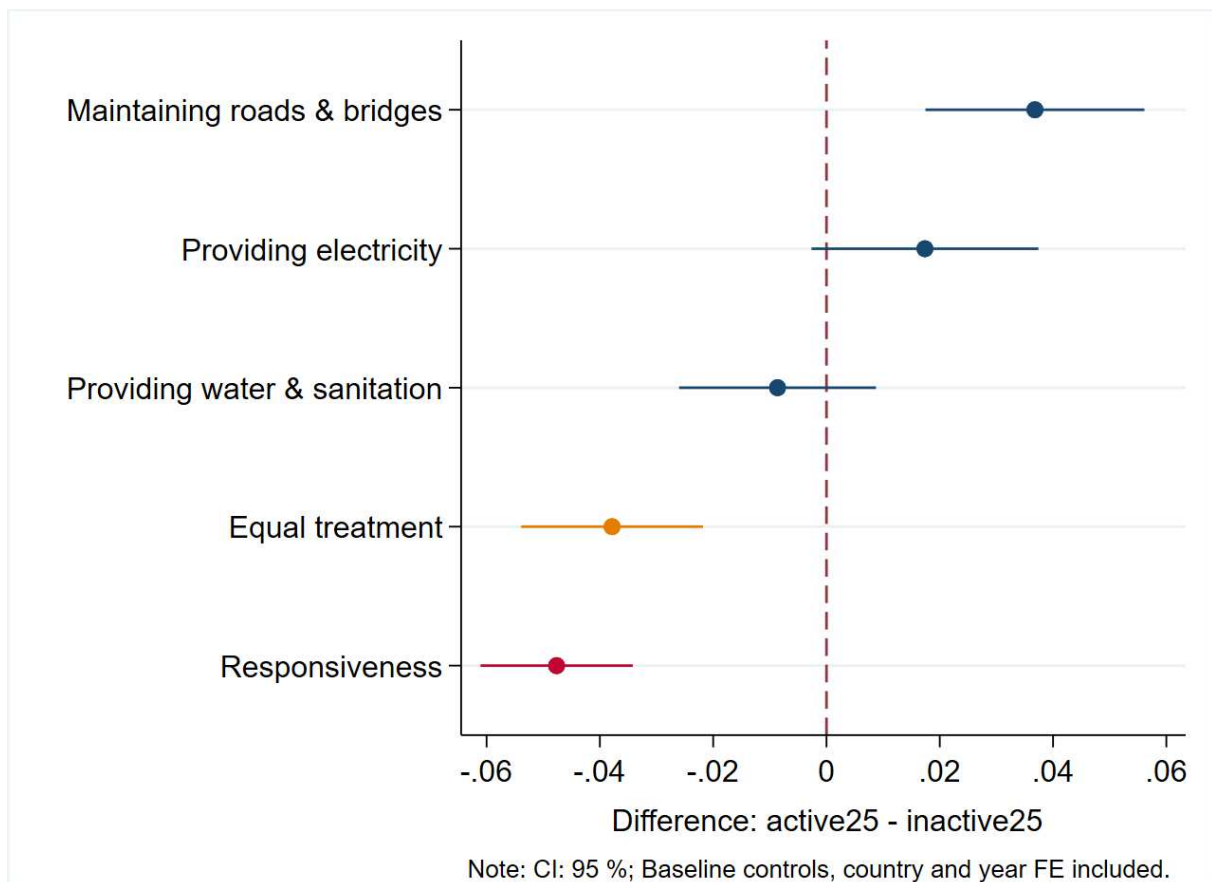
Figure 11 (numerical results given in *Table A-21*) shows that respondents exposed to active rather than future Chinese aid projects are 3.7 percentage points more likely to positively evaluate their government's performance with respect to the maintenance of roads and bridges (corresponding to a 7.7 percent difference in relation the mean performance). The effect of Chinese aid on the perceived government performance in supplying electricity is also positive but only significant at the 10 percent level while there are null effects with respect to the perceived performance in providing water and sanitation. Hence, there is only limited evidence for the first mechanism to explain the effect of Chinese aid on tax morale. Still, governments appear to be able to claim credit for China-provided services at least to a certain extent.

Regarding the second mechanism, one notes that citizens living near active as opposed to future Chinese aid projects are less likely to report that people in their country are mostly treated equally by the state, suggesting less fair political procedures in the eyes of the citizens. Representing an 8.6 percent decrease from the mean of the DV, the point estimate of –3.8 percentage points is quite substantial. This finding supports previous studies on the effect of Chinese aid on corruption and its heterogenous effects across different societal groups (Cha 2020; Xu & Zhang 2020; Isaksson & Kotsadam 2018a). Possibly due to Beijing's no-strings-attached policy, Chinese aid is distributed unevenly across targeted populations or prone to corrupt practices. As for the third mechanism, citizens exposed to active rather than inactive Chinese aid projects are 4.8 percentage points less likely to believe that their local political representatives make great efforts to respond to their needs. This effect implies a 20 percent decrease from the mean of the DV and is thus very sizeable. A possible explanation for this noticeable effect is that many African leaders use China's flexibility and propensity to implement large-scale infrastructure projects to improve their own image among the citizenry by directing aid projects to state-run facilities, mega-projects in the logistic sector, and prestige projects such as the construction of presidential palaces (Dreher et al. 2016: 11; Mthembu-Salter 2012: 20f.; Bräutigam 2009: 288f.). Yet, these priorities seem to deviate from those of the population which can be detrimental for state-society relations given the high relevance of government responsiveness for people's attitudes towards the state (D'Arcy 2011: 17).

These adverse impacts are likely to be caused by aid capture issues due to China's aid-on-demand approach and its non-interference policy that allow for aid allocation according to power-political assessments by domestic elites rather than general welfare-enhancing considerations (Brazys & Vadlamannati 2021: 423). The fact that the tested mechanisms – especially when considered together – do not explain the positive impact of Chinese aid on people's tax morale is quite astonishing and will be discussed in the following chapter.

7   Discussion

In this chapter, I will discuss my findings, referring to the theoretical framework of this study, and address the appropriateness of the indicator I used to approximate people's legitimating beliefs. Lastly, I will assess the statistical validity and transferability of my results, considering the shortcomings of my approach and their relevance with respect to the explanatory power of my models.

7.1   Evaluation of the Results

In my analysis, I find overall support for my hypothesis predicting a positive effect of exposure to Chinese aid on people's legitimating beliefs. Admittedly, the effect size (a 3.2 percentage points rise in the probability to accept the state's right to tax) is rather modest. In the light of widespread criticism towards China's aid regime, its vulnerability to aid capture, and its corruption-enhancing properties, it might have seemed somewhat unorthodox to assume benign effects on empirical legitimacy in recipient countries. In the following, I will add a few explanatory words to my results to facilitate their interpretation: Before having conducted the analysis, I hypothesized heterogenous effects that will add up to a moderately positive effect of Chinese aid on empirical legitimacy. Beyond the effect heterogeneity across different contexts, a potential reason for the relatively small overall effect size might be that citizens do not necessarily associate locally implemented projects with the sub-national or national level responsible for tax collection. Moreover, even though researchers as Stollenwerk (2018) have shown that the central argument of fiscal contract theory also applies in SSA, it is doubtful whether the requirement of performance-based legitimating beliefs is met in the entire region. Further, multiple potential sources of legitimacy coexist in aid-receiving countries, which governance effectiveness – albeit of utmost importance – is only one (Schmelzle 2011: 464).

Nevertheless, given the difficulty of inducing a change in quasi-voluntary compliance with tax obligations, since the latter is influenced by a variety of factors on the one hand, and tied to persistent moral beliefs of what is right to do on the other hand, an effect such as that evoked by Chinese aid should not be considered negligible (Tyler 2006: 68; Levi 1988: 54). This is particularly true when considering the null effects of WB foreign assistance which point to a China-induced rather than an aid-induced effect. When tested in a setting that is conducive for the acceptance of non-state actors, such as an environment of poor government performance, the impact becomes more sizeable, suggesting that Chinese development activities are generally accepted by the population, unless people try to strengthen the fiscal contract in order to ensure budgetary independence from external actors. Against the backdrop of harmful side-effects,

such as shrinking government responsiveness and perceived procedural fairness, this option cannot be excluded, although it is very unlikely as being exposed to Chinese aid generally improves beneficiaries' attitudes towards China's engagement and makes them more likely to positively evaluate its influence on the development of their countries (Xu & Zhang 2020). Consequently, when contemplating the fiscal contract in aid-receiving countries, it must be recognized that external actors are not always intruders in a bilateral relationship between the state and its citizens but can also be an inherent part of it, even though many researchers argue that "service provision (…) by external actors is neither a functional nor a normative equivalent to domestic authority" (Schmelzle 2011: 17).

Using large-N studies to examine the average impact of foreign aid, one should be careful as competing causal mechanisms can lead to inadequate conclusions (Barma et al. 2020: 193). As it has been shown, higher acceptance for the state's right to levy taxes due to external service provision is not necessarily a sign for people's satisfaction with those services or with the process of their delivery. I explored three theoretically derived potential mechanisms but without finding solid ground explaining the positive impact of Chinese aid on state legitimacy. Hence, either some other (perhaps unobservable) mechanism must be at work or the relationship between (external) public service provision and people's willingness to fulfill their part of the fiscal contract is more direct than conventional wisdom suggests. Possibly, the experience of service delivery (without having to pay for it) raises people's awareness for the reciprocal exchange relationship between themselves and their state even – or perhaps especially – when a third party is involved. SSA citizens exposed to Chinese aid projects experience what is often described as effective external service provision for which reason they might feel obliged to reward their state for attracting and regulating foreign assistance by quasi-voluntary compliance (Swedlund 2017a: 128f; Sacks 2011a: 33f.). Another impetus might be the positive effect of Chinese aid on people's economic situation that enables them to pay taxes in the first place (Fjeldstad & Semboja 1998: 16). In this case, the effect would be a more indirect one, potentially deriving from an increased probability of having wage employment due to Chinese aid as found by Isaksson and Kotsadam (2018b: 293). However, this can hardly be the only reason as economic and infrastructure projects which can be expected to affect employment rates and economic activity of a region yields less pronounced results than projects in the social domain. It is beyond this study to get to the bottom of respondents' motivations to report higher acceptance of and compliance with tax obligations.

All in all, skepticism about Chinese aid does not seem to be unwarranted. Nonetheless, China's aid policy appears to produce outcomes that outweigh these negative aspects in the big

picture – at least to some extent. The duality of my findings reflects the previously identified characteristics of Chinese aid regime and their conflicting impacts on people's perception of the state. However, based on my findings, Chinese aid cannot be accused of interfering with the fiscal contract in SSA – at least in the short run. Concerning the persistence of the revealed effect, it is to be distinguished whether the services provided constitute one-time improvements which are unlikely to be sustained over time or whether these are institutionalized enhancements based on long-term funding and quality control mechanisms (Prichard 2015: 66). In the context of Chinese aid, the first case is rather to be expected as many Chinese contractors do not engage in trainings of local staff and have little interest in building up local capacity and sustainable structures or ensure long-term economic growth (Wang & Elliot 2014: 1026; Bräutigam 2009: 57). Moreover, Beijing is often accused of prioritizing efficiency over quality in the implementation of aid projects, which may lead to a shift in public opinion in the long run as perceived performance improvements in service delivery may suffer from their insufficient quality (ibid.: 1030). Either way, China is likely to remain a key player with respect to service delivery in SSA and its development activities are taken notice of by the local population and have consequences how targeted citizens perceive their state.

7.2 Appropriateness of Tax Morale as an Indicator for State Legitimacy

As already pointed out in section 5.2, tax morale and compliance are well-established indicators to measure empirical legitimacy even in the context of developing countries. Moreover, tax-related survey questions appear to be most appropriate under the theoretical assumptions of the fiscal contract because they capture people's willingness to fulfill their obligations in this regard. Still, research designs relying on surveys must deal with the problems of self-reported data which is far from being objective and often inaccurately reflects reality (McCulloch et al. 2021: 232). Despite numerous advances achieved over the last decade, surveys conducted in developing or non-democratic countries usually entail more arduousness than surveys from highly developed countries. For people living in authoritarian regimes, political questions can be very sensitive which is why they are expected to be more reluctant to criticize political authorities of their country, resulting in potentially severe social desirability bias (Lupu & Michelitch 2018: 203). This might be reinforced by the fact that interviews conducted by Afrobarometer take place in person and respondents often perceive the interviewer as a person of authority (ibid.: 200f.). As all my DV are mostly based on survey questions concerning people's attitudes vis-à-vis the state, there might be a selection bias since "people's willingness to voice opinions may be a function of their perceptions of the

government's stance" (Chia 2014: 384). Given this study's research design, a generally overstated rate of tax morale does not impair my empirical results worryingly since this would affect both, treated and non-treated people equally. It could, however, cause an overrated mean of the DV which would make the unveiled effect seem less meaningful than it really is.

Beyond that, questions on tax-related issues can easily take on a purely hypothetical character: Only 35 percent of respondents in my sample have a job that pays cash income and only 25 percent of respondents are, by their own account, supposed to pay taxes on their income. Besides, tax evasion can be purely economically motivated. According to Dolan "tax-based measurements of legitimacy may be ill-suited to developing country contexts" (2020: 144). Even though this argument may be justified, my results suggest a (direct) relationship between the experience of (external) service delivery and people's acceptance for the state's right to collect taxes. Hence, it can be concluded that SSA citizens associate these two ends of the fiscal contract. Despite the drawbacks that come with tax-based indicators for state legitimacy, there is hardly a better alternative in the context of Afrobarometer survey. For quite some time, political trust has been a valid and commonly used indicator for legitimacy without a clear definition of the concept. Even though there are still a few scholars following this tradition (Grimes 2006; Hutchison & Johnson 2011), the majority attaches importance to a differentiation between institutional trust and state legitimacy (Mcloughlin 2017; Lamb 2014; Gilley 2009; Sacks & Tyler 2009). Besides, trust has strong normative, cultural, and subjective connotations which makes it unsuitable for cross-national analyses (Schneider 2017: 964).

Altogether, to assess the significance of an increased tax morale for conclusions about legitimacy, two things should be borne in mind: First, tax morale and compliance are not to be confused with state legitimacy, they are rather a consequence of subordinates' legitimating beliefs (Beetham 1991: 34). Second, it holds true what has best been expressed by Easton: "A belief in legitimacy is one and only one among numerous motives for compliance" (1965: 293). Therefore, and considering the results of the tested mechanisms, one should be cautious about inferring higher state legitimacy from higher tax morale.

7.3 Empirical Validity and Transferability

The methodical approach applied in the analysis brings multiple benefits that make this study a valuable contribution to the research of development aid and its impact on state legitimacy. The DiD-type estimation strategy offers unbiased results while reducing concerns about omitted variable bias and endogenous aid allocation, the temporal-spatial strategy allows to define treatment occurrences in the absence of structured panel data and thus to take

advantage of the time variation in the data, and FE tackle the problem of selection bias in the estimation of the causal effect by eliminating unobservable confounding (Montgomery et al. 2018: 760; Mummolo & Peterson 2018: 829; Villa 2016: 52). The large number of observations diminishes the sampling error and strengthens confidence in the results. Even though the ATE is not very strong, it withstands a range of robustness tests, leaving little space for speculation that Chinese aid erodes the fiscal contract or undermines state legitimacy in SSA. Nevertheless, my estimation strategy as well as the used datasets – whereof one is inherently incomplete – are not unassailable. Firstly, large-N studies focus on whole populations and always come with the drawback that they do not allow to draw any conclusions on causal mechanisms for countries, let alone sub-national entities, or individuals (Fischer & Goerres 2020: 138). As demonstrated, there even is considerable heterogeneity between countries. Else, although the overall tendency of the revealed effect is undeniable, based on my results, it is impossible to draw any conclusions on different regional contexts or donors as comparisons with WB aid have shown. Beyond that, the measurement accuracy of my DV is far from being flawless as a complex concept such as people's tax morale is transformed into a binary form, hardly able to capture the multiple facets of legitimating beliefs. The straightforward interpretation of coefficients in an LPM involves some loss of information compared to the original Likert scale. The same holds for my explanatory variable *active25* that ignores the large variation in the number of active Chinese projects a person has access to. This can be considered when estimating marginal effects, for which, however, a different coding strategy must be applied.

Furthermore, exploring sample balances between pre- and post-treatment respondents, one notices some discrepancies between the two groups. Thus, I cannot rule out that the net effects exerted by the covariates may be endogenous to Chinese aid (*Table A-22*). For instance, post-treatment individuals are better educated and more likely to live in urban areas, factors that potentially depend on China's inflows – at least to some extent. Generally, it would be preferable to have pre- and post-treatment observations for each treated respondent, allowing for a conventional longitudinal design (Brazys et al. 2017: 249).

Besides, when using secondary survey data, there are often sample biases, limiting the external validity of the results (Fischer & Goerres 2020: 140). As Afrobarometer interviews are not conducted in very fragile or conflicted-affected contexts, several of the least developed SSA countries receiving aid from China, such as Rwanda or Chad, are not included in the sample, possibly resulting in an underestimation of the real effect. As it has been stated above, AidData (2018) shows some inaccuracy and many missing observations. Restricting this database for analysis is a trade-off between precision and representativeness. Some authors take a more

restrictive approach than I did, leaving aside all non-ODA projects or projects without precise geographical and time-related dates (e.g., Knutsen & Kotsadam 2020). Both strategies are valid and yet contestable. I tried to account for the deficits of my approach within the sensitivity analysis. As the estimation withstands all robustness tests in this respect, my approach does not seem to entail any major pitfalls. Else, due to the non-transparency of Chinese aid flows as well as the strict self-imposed quality standards of those in charge of data collection, it is highly unlikely that all existing projects have found entrance in the dataset, leading to unwanted but unavoidable bias in the data (Strange et al. 2017a: 941).

Geo-referenced data also implies border issues: Some of the aid projects are transnational and thus benefit both sides of the border (such as the *Tanzania-Zambia Railway*). Others are national projects implemented near the border, which risks coding people from neighbor countries as treated because they live within the project's cut-off zone without having access to the projects, and even if they do, they cannot be expected to update their legitimating beliefs vis-à-vis their own state. It should also be borne in mind that focusing on aid locations with an IATS precision code smaller than four implies that diffuse aid projects, such as debt reliefs, are underrepresented in my sample while those with physical project sites, such as transport and storage are overrepresented in relation to all Chinese projects in SSA *(Table A-23)*. While slightly limiting the external validity of my results, this is at worst a minor problem for the purpose of this study as the focus lies on tangible public services.

Moreover, all kinds of projects have been treated equally, without considering their financial volumes or their scope, although the construction of railways is likely to be recognized by a broader public and to exert more direct impacts on people's attitudes towards the state than the donation of computers to a local public administration that might not even be taken notice of and affect governance effectiveness only time-delayed by enhancing administrative capacities. In addition, my analysis relies on the demanding assumption that living in geographic proximity to Chinese aid projects implies being exposed to their treatment effect. This assumption, though, is likely to be violated, as not everyone living near Chinese aid projects will be affected by them. Hence, some post-treatment group members are likely to "fail to receive their assigned treatment" (Montgomery et al. 2018: 760). This potential bias can only be excluded in the framework of field studies or primary data collection that allows to question study participants whether and – if so – how frequently they use the respective services (Blair & Roessler 2021: 339). Furthermore, there is the concern that aid projects starting later and those starting earlier may differ systematically from each-other (Kotsadam & Isaksson 2018a: 151). Due to the data structure and the derived assignment of respondents to pre- and post-

treatment groups, this would not cause any problem if it were not for an overrepresentation of post-treatment respondents in the latest survey wave, simply because data on Chinese aid projects is only available until 2014 while survey data is available until 2015. This shortcoming is not of major significance but should be circumvented in later studies by including earlier survey waves that compensate for this issue[28].

8 Conclusion, Policy Recommendations, and Avenues for Future Research

To complete the picture, I will briefly summarize the findings, follow them up with some concluding remarks, based on which I make policy recommendations and suggest points of departure for future research.

8.1 What Has Been Done

Very few cross-national studies are dedicated to the impacts of aid on people's legitimating beliefs; research in this field mostly focuses on within-country contexts. Concurrently, aid from non-traditional donors – especially China – is mostly discussed from an aggregate perspective that hardly allows to examine its impact on its beneficiaries. So far, researchers have neglected to explore the impact of Chinese aid on the micro-level and only one paper has directed attention to the question of how Chinese aid affects state-society relations in recipient countries (Blair & Roessler 2021). To compensate for these imbalances, this thesis has offered a large-N and seven years of survey covering contribution to the academic debate around Chinese aid which casts new light on how citizens adapt their attitude and behavior towards the state in the view of public services delivered by an external provider that stands out from the DAC-community. Drawing on data from 28 SSA countries and 1,582 Chinese aid projects, I found positive causal effects of Chinese aid on people's legitimating beliefs. In this context, I quarried the interesting and – at first glance seemingly contradicting – result that the exposure to Chinese aid slightly strengthens citizens' tax morale and, to a more limited degree, their tax compliance even though political procedures are judged to be less fair and equitable, and government authorities are seen to be less responsive to people's needs. Then again, Chinese aid seems to leave at least some space for credit claiming as beneficiaries are to some extent more likely to positively judge their governments' performance in supplying public services. It has been shown that projects targeted towards social infrastructure yield somewhat more meaningful positive effects than those targeted towards economic infrastructure while projects belonging to the government and civil society sector only produce weakly and

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[28] Since geo-referenced Afrobarometer data is not openly accessible, I could not include earlier waves.

insignificantly positive results. Conversely, WB projects have not been found to affect people's tax morale unless the causal effect of WB aid is examined amongst respondents who also live near active Chinese aid projects. The presence of Chinese aid appears to create a beneficial environment for the causal effect of WB projects on empirical legitimacy, while WB projects do not have comparable impacts on the China-induced causal effect. While my results contradict some previous studies (e.g., Marineau 2020), they are consistent with many contributions attesting the positive impact of foreign aid on state legitimacy (e.g., Winters et al. 2018; Cruz & Schneider 2017) and support the findings of Blair and Roessler (2021) for the case of Chinese aid by identifying even more pronounced and statistically significant positive effects. Still, in how far assistance from Beijing affects state-society relations highly depends on how the latter are designed, i.e., how effectively services are provided, how well tax enforcement works, and to what extent international donors contribute to the public revenue. My results support the assumption that the relationship between external service provision and state legitimacy is equivocal and heterogenous across different contexts (e.g., Mcloughlin 2017; Brinkerhoff et al. 2018). Yet, they also deprive critics of the basis for alleging that Chinese aid has exclusively negative effects on state-society relations in recipient countries.

Altogether, this study has emphasized the need to contemplate the ramifications of aid for the relationship between the state and its subjects which is often much more complex than considering these two parties in isolation. Needless to say, this thesis cannot stand alone but needs to be followed by further research to verify its results.

8.2   What Can Be Drawn from What Has Been Done

Following my findings, SSA leaders do not need to avoid Chinese aid for the sake of people's legitimating beliefs. However, even though Chinese aid appears to be advantageous for state-society relations in SSA at the first glance, it also bears the risks of detrimental side-effects. As long as secure knowledge on the mechanisms driving the relationship between Chinese aid and an increased tax morale is missing, one cannot be sure that citizens exposed to aid projects appreciate the services provided or the procedure of their delivery. Hence, SSA leaders should carefully supervise the implementation process. In a situation where aid is strictly tied to donor procurement, host country authorities should at least ensure that aid flows are targeted to sectors that are best suited to serve the public welfare to further induce compliant behavior. According to my results, these are notably projects that serve social infrastructure in contrast to those directed towards privileged groups. As SSA citizens are more likely to deplore government responsiveness and procedural justice when being exposed to Chinese aid projects,

they must be given a stronger voice in that matter. Moreover, citizens' expectations should not be neglected; states capable to provide public services should do so and use aid only in a supplementary manner to avoid manifesting an aid curse. The predominance of foreign service providers in SSA which is likely to persist many years to come cannot be taken as a substitute to domestic efforts to deliver services (Collier 2009: 118). This also holds for tax enforcements. Given the more pronounced effects for respondents living in countries with higher fiscal capacities, governments should engage in serious efforts to take advantage of the – albeit moderate – effect of Chinese aid on people's tax morale by investing in their tax administration to create a basis for a mutual exchange relationship with subordinates. Generally speaking, foreign aid should complement, not replace governmental duties in order to strengthen the contractual relationship between the state and its subordinates in host-countries.

On the other hand, Western critics should be more reluctant to accuse Beijing to impair state-society relations in aid-receiving countries. For reasons that need to be discussed further, China's aid projects seem to contribute to the fiscal contract in SSA, probably by making the state visible to the citizens' eyes in the form of large-scale public services. Moreover, it has been shown that China's presence stimulates a positive impact of WB aid projects on people's legitimating beliefs which does not appear to exist in areas without Chinese aid. Thus, the competition between traditional and "new" donors might initiate adjustments in development cooperation that might benefit the recipients (Hernandez 2017). As the PRC expands its role in Africa and offers a valid alternative to the DAC, it is critical to rethink traditional aid patterns such as strict adherence to conditionalities and interferences in internal affairs. DAC-donors should combine the best of both worlds by advocating less corruption and focusing on accountability and transparency without leaving the domestic state out of the equation or putting it under pressure by imposing overly rigid conditions.

8.3   What Still Needs to Be Done

While some questions on the impact of foreign aid on state legitimacy in SSA could be answered within this thesis, new avenues for further research have opened and are now ready to be explored: Which mechanisms others than those tested in this thesis could matter for the relationship between Chinese aid and people's legitimating beliefs? How persistent is the unveiled effect? Does Chinese aid produce similar effects in other aid-receiving regions? In how far does the change in attitudinal legitimacy translate into actual behavioral changes? What drives the positive externalities of Chinese aid on the effect of WB projects on tax morale? Which characteristics of Chinese aid projects are beneficial, and which are harmful in the eyes

of SSA citizens? And above all: Why do citizens reward their state for external service delivery that obviously entails so many drawbacks? Future research should not exclusively rely on macro data and cross-national studies but needs to be enriched by within-country studies, experimental taxation and compliance games, on-site focus groups as well as in-depth interviews. More qualitative research is especially needed to dig deeper into the question why citizens are more (or less) inclined to pay taxes in the presence of foreign aid, and to reveal whether they prefer their government to provide public services in a self-sufficient manner or whether they prefer external donors to do the job as an exchange for lower taxes (Blair & Winters 2020: 134). Comparative analyses can shed light on which aid regime is most suitable to strengthen state-society relations. In the context of SSA, it will be crucial to take regional and ethnic specifications into account as those can be important moderating parameters in state-society relations (Meagher 2018: 11; Bodea & LeBas 2016: 22). Moreover, fiscal contract theory must be adapted to the conditions of aid-receiving countries. When investigating the fiscal contract in SSA, the role of non-state service providers cannot be ignored. Beyond that, it is necessary to further probe the appropriateness of tax-related indicators for empirical legitimacy in the context of developing countries and possibly to search for alternatives.

In summary, a lot needs to be done regarding the impact of foreign aid on state legitimacy in host countries, especially when it is granted by emerging donors, such as China. As people's legitimating beliefs are most crucial for state building and institutional reform in SSA, this world region remains in the spotlight. The great diversity within and between its countries in terms of aid-dependency, people's living conditions, their expectations towards political authorities as well as the latter's abilities to extract revenue from its citizenry and to provide for the public welfare has already led to many findings that at first glance seemed counterintuitive. Scholars should not be deterred by this. As this thesis has illustrated, it is not for nothing that Bernard Crick referred to legitimacy as "the master question of politics" (1959: 150).

9   Bibliography

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Technical Appendix

Foreign Aid and State Legitimacy in Sub-Saharan Africa

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What Happens when China Enters the Fiscal Contract

Table A-1: General government final consumption expenditure

Country	GGFCE 2019 (in percent of GDP)
Ø Sub-Saharan Africa (sample)	15.2
Benin	10.3
Botswana	19.3
Burundi	27.6
Cameroon	10.9
Cape Verde	17.6
Cote D`Ivoire	10.1
Gabon	11.0
Ghana	8.8
Guinea	15.3
Kenya	13.1
Lesotho	38.8
Liberia	19.7
Madagascar	14.2
Malawi	-
Mali	15.7
Mauritius	15.3
Mozambique	21.7
Namibia	25.7
Niger	17.2
Nigeria	5.6
Senegal	13.8
Sierra Leone	8.4
Sudan	6.2
Tanzania	7.8
Togo	13.7
Uganda	8.8
Zambia	17.7
Zimbabwe	-

Data Source: World Bank (2021a)

Codebook

1.) Main Dependent Variables

Variable: *Tax morale* (do-file: *ack_taxes_d*)

Label: Acceptance of the state's right to levy taxes

Description: Survey question: "For each of the following statements, please tell me whether you disagree or agree: The tax department always has the right to make people pay taxes."

Scale: Dichotomous

Values: 0 = Do not agree, 1 = agree

Note: Original scale from 1 = "Strongly disagree" to 5 = "Strongly agree"

Source: Afrobarometer waves 4, 5, and 6

Variable: *Tax compliance* (do-file: *tax_comp_d*)

Label: Compliance with tax obligations

Description: Survey question: "Here is a list of actions that people sometimes take as citizens when they are dissatisfied with government performance. For each of these, please tell me whether you, personally, have done any of these things during the past year. If not, would you do this if you had the chance: Refused to pay a tax or fee to government?"

Scale: Dichotomous

Values: 0 = Respondent has already or would refuse to pay taxes, 1 = Respondent has never and would never refuse to pay taxes

Note: Originally reverse scale from 0 = "No, would never do this" to 4 = "Yes, often"

Source: Afrobarometer waves 4, 5, and 6

2.) Independent Variables

Variable: *active25* (do-file: *active25*)

Label: Exposure to currently active Chinese aid projects within 25km

Description: Variable generated in the course of geo-matching

Scale: Dichotomous

Values: 1 = respondent lives within a 25 km distance to an active Chinese aid project, 0 = otherwise

Source: Geographic coordinates from Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018) & Afrobarometer waves 4, 5, 6

Variable: *inactive25* (do-file: inactive25)

Label: Exposure to future Chinese aid projects within 25 km

Description: Variable generated in the course of geo-matching

Scale: Dichotomous

Values: 1 = respondent lives within a 25 km distance to a future Chinese aid project, 0 = otherwise

Source: Geographic coordinates from Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018) & Afrobarometer waves 4, 5, 6

Variable: *WB active25* (do-file: *wb_active25*)

Label: Exposure to currently active World Bank aid projects within 25km

Description: Variable generated in the course of geo-matching

Scale: Dichotomous

Values: 1 = respondent lives within a 25 km distance to an active World Bank aid project, 0 = otherwise

Source: Geographic coordinates from World Bank Geocoded Research Release (Version 1.4.2) AidData (2017) & Afrobarometer waves 4, 5, 6

Variable: *WB inactive25* (do-file: *wb_inactive25*)

Label: Exposure to future World Bank aid projects within 25km

Description: Variable generated in the course of geo-matching

Scale: Dichotomous

Values: 1 = respondent lives within a 25 km distance to a future World Bank aid project, 0 = otherwise

Source: Geographic coordinates from World Bank Geocoded Research Release (Version 1.4.2) AidData (2017) & Afrobarometer waves 4, 5, 6

    3.) Socio-demographic Control Variables

Variable: *age* (do-file: *age*)

Label: Repondent's age

Description: Survey question: "How old are you?"

Scale: Ratio from 18 to 105

Source: Afrobarometer waves 4, 5, 6

Variable: *female* (do-file: *female*)

Label: Respondent's gender

Description: Survey question: This question is answered by the interviewer: "Gender of respondent"

Scale: Dichotomous

Value: 1 = female, 0 = male

Source: Afrobarometer waves 4, 5, 6

Variable: *urban* (do-file: *urban*)

Label: Urban vs. rural residence area

Description: Survey question: This question is answered by the interviewer: "Urban or rural primary sampling unit"

Scale: Dichotomous

Value: 1 = urban, 0 = rural

Source: Afrobarometer waves 4, 5, 6

Variable: *education* (do-file: *education*)

Label: Respondent's highest level of education

Description: Survey question: "What is your highest level of education?"

Scale: Ordinal from 0 to 2

Value: 0 = No primary schooling completed, 1 = Between primary schooling completed and secondary schooling completed, 2 = Post-secondary schooling

Note: Originally ordinal scale has values from 0 = "No formal schooling" to 9 = "Post-graduate"

Source: Afrobarometer waves 4, 5, 6

Variable: *religion* (do-file: *religion*)

Label: Respondent's religious affiliation

Description: Survey question: "What is your religion, if any?"

Scale: Nominal from 0 to 3

Value: 0 = No religion, 1 = Christian, 2 = Muslim, 3 = Traditional religions and others

Note: Originally nominal scale from with several sub-groups (number differing across survey waves) that have been grouped into four categories

Source: Afrobarometer waves 4, 5, 6

4.) Fixed Effects

Variable: *country fixed effects* (do-file: *cd** → *cd1, cd2, cd3, ..., cd28*)

Label: Respondent comes from a certain country

Description: Generated using the string variable *country* to control for country fixed effects

Scale: Dichotomous

Values: 1 = country is [country name], 0 = otherwise

Source: Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018)

Variable: *region fixed effects* (do-file: *rd** → *rd1, rd2, rd3, ..., rd368*)

Label: Respondent comes from a certain region

Description: Generated using the string variable *region* to control for region fixed effects

Scale: Dichotomous

Values: 1 = region is [region name], 0 = otherwise

Source: Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018)

Variable: *(survey) year fixed effects* (do-file: *yd** → *yd1, yd2, yd3, …, yd7*)

Label: Being interview in a certain year

Description: Generated using the variable *int_year* to control for year fixed effects

Scale: Dichotomous

Values: 1 = survey has been conducted in [year], 0 = otherwise

Source: Afrobarometer waves 4, 5, 6

5.) Further Control Variables for Robustness Test

Variable: *employment* (do-file: *employment*)

Label: Respondent's employment status

Description: Survey question: "Do you have a job that pays a cash income? If yes, is it full-time or part-time? If no, are you presently looking for a job?"

Scale: Dichotomous

Value: 1 = employed (with cash income), 0 = unemployed or not receiving cash income

Note: Originally ordinal scale from 0 = "No (not looking)" to 3 = "Yes, full time"

Source: Afrobarometer waves 4, 5, 6

Variable: *shortage* (do-file: *shortage*)

Label: Experience of shortage of vital supplies

Description: Index variable generated of three survey questions: "Over the past year, how often, if ever, have you or anyone in your family gone without: Enough food to eat/ Clean water for home use/ Medicines or medical treatment?"

Scale: Quasi-metric from 0 to 4 with limited number of values increasing in the number of vital supplies a person has suffered shortage of

Note: Originally ordinal scale from 0 = "Never" to 4 = "Always"

Source: Afrobarometer 4, 5, 6

Variable: *ethnic affiliation* (do-file: *ethnic*)

Label: Respondent's ethnic affiliation

Description: Survey question: "Let us suppose that you had to choose between being a [enter nationality] and being a _____ [respondent's ethnic group]. Which of the following best expresses your feelings?"

Scale: Ordinal

Value: 1 = "I feel only [enter respondent's ethnic group]" to, 5 = "I feel only [enter nationality]"

Source: Afrobarometer waves 4, 5, 6

6.) Dependent Variables for Mechanisms

Variable: *Performance water* (do-file: *perform_water_d*)

Label: Perceived government performance in providing water and sanitation

Description: Survey question: "How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Providing water and sanitation services?"

Scale: Dichotomous

Values: 0 = badly, 1 = well

Note: Originally ordinal scale from 1 = "Very badly" to 4 = "Very well"

Source: Afrobarometer waves 4, 5, 6

Variable: *Performance electricity* (do-file: *perform_electric_d*)

Label: Perceived government performance in providing electricity supply

Description: Survey question: "How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Providing a reliable supply of electricity?"

Scale: Dichotomous

Values: 0 = badly, 1 = well

Note: Originally ordinal scale from 1 = "Very badly" to 4 = "Very well"

Source: Afrobarometer waves 4, 5, 6

Variable: *Performance roads & bridges* (do-file: *perform_roads_d*)

Label: Perceived government performance in maintaining roads and bridges

Description: Survey question: "How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Maintaining roads and bridges?"

Scale: Dichotomous

Values: 0 = badly, 1 = well

Note: Originally ordinal scale from 1 = "Very badly" to 4 = "Very well"

Source: Afrobarometer waves 4, 5, 6

Variable: *Responsiveness* (do-file: *respon_d*)

Label: Perceived government responsiveness

Description: Survey question: "How much of the time do you think the following try their best to listen to what people like you have to say: Assembly men/women?"

Scale: Dichotomous

Values: 0 = Never or sometimes, 1 = Often or always

Note: Originally ordinal scale from 0 = "Never" to 3 = "Always"

Source: Afrobarometer waves 4, 5, 6

Variable: *Equal political procedures* (do-file: *equal_d*)

Label: How often people treated unequally

Description: Survey question: "In your opinion, how often, in this country: Are people treated unequally under the law?"

Scale: Dichotomous

Values: 0 = often or always, 1 = never or rarely

Note: Originally reverse scale from 0 = "Never" to 3 = "Always"

Source: Afrobarometer waves 4, 5, 6

7.) Macro Variables

Variable: *Government effectiveness* (do-file: *wgi_ps*)

Description: The indicator "captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (World Bank 2021b).

Scale: Interval from –2.5 to +2.5

Note: Used to generate sub-samples in chapter 6.3

Source: World Bank (2021b)

Variable: *Fiscal capacity* (do-file: *fiscal_capacity*)

Description: The indicator builds on revenue from hard-to-collect taxes and gives the real tax revenue per capita as nominal tax revenue per capita deflated by nominal day wages.

Scale: Ratio from 0 to 100 percent

Note: Used to generate sub-samples in chapter 6.3

Source: Provided to the author by Albers et al. (2020).

Variable: *ODA inflows* (do-file: *oda*)

Description: Amount of net ODA inflows per capita into a country, measured in current US-dollars.

Scale: Ratio from 0 to ∞

Note: Used to generate sub-samples in chapter 6.3

Source: World Bank (2021c)

8.) Further Variables

Variable: *Sector* (do-file: *sector*)

Label: Sector targeted by Chinese aid projects (e.g., health, education, transport & storage, …)

Scale: Nominal

Note: Used to generate sub-samples in chapter 6.5

Source: Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018)

Variable: N*umber of ACTIVE projects* (do-file: *number_active*)

Label: Number of active Chinese aid projects within a 25 km distance

Description: Variable generated in the course of geo-matching individuals from Afrobarometer and aid projects AidData

Scale: Ratio from 0 to 57

Note: Used for estimation of marginal effects.

Source: Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018) & Afrobarometer wave 4, 5, 6

Variable: *Distance* (do-file: *_1projectdist*)

Label: Distance from survey cluster to the closest project in km

Description: Variable generated from AidData dataset

Scale: Ratio from 0.00 to 704.13

Note: Only used for graphics.

Source: Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018) & Afrobarometer wave 4, 5, 6

Variable: *Suspended25* (do-file: *suspended25*)

Label: Exposure to completed Chinese aid projects within 25 km

Description: Omitted category, variable generated in the course of geo-matching

Scale: Dichotomous

Values: 1 = respondent lives within a 25 km distance to a completed Chinese aid project, 0 = otherwise

Note: Only used as omitted category.

Source: Geographic coordinates from Global Chinese Official Finance Dataset (Version 1.1.1) AidData (2018) & Afrobarometer waves 4, 5, 6

Variable: *WB suspended25* (do-file: *wb_suspended25*)

Label: Exposure to completed World Bank aid projects within 25km

Description: Omitted category, variable generated in the course of geo-matching

Scale: Dichotomous

Values: 1 = respondent lives within a 25 km distance to a completed World Bank aid project, 0 = otherwise

Note: Only used as omitted category.

Source: Geographic coordinates from World Bank Geocoded Research Release (Version 1.4.2) AidData (2017) & Afrobarometer waves 4, 5, 6

Variable: *time trend* (do-file: *timetrend*)

Label: Sequence of survey years

Scale: Interval

Values: 1 = 2008 until 8 = 2015

Note: Used in robustness test.

Source: Afrobarometer waves 4, 5, 6

Do-file Information

Table A-2: Do-file guide

Name of do-file	Content
1a_cleaning_wave 4	Cleaning and editing of Afrobarometer date wave 4
1b_cleaning_wave 5	Cleaning and editing of Afrobarometer data wave 5
1c_cleaning_wave 6	Cleaning and editing of Afrobarometer data wave 6
2a_cleaning_aid China	Cleaning and editing of Chinese aid data set
2b_cleaning_aid WB	Cleaning and editing of World Bank data set
3_appending_Afrobarometer	Appending the three Afrobarometer waves
4a_geomatch_China	Geo-matching Chinese aid projects with Afrobarometer respondents and coding treatment and control groups
4b_geomatch_China subsamples	Geo-matching Chinese aid projects with Afrobarometer respondents and coding treatment and control groups for a subsample used in sensitivity analysis
4c_geomatch_World Bank	Geo-matching World Bank aid projects with Afrobarometer respondents and coding treatment and control groups
5_macro indicators	Loading and editing macro-level indicators
6_analysis	Regressions, tables, figures, and robustness tests reported in thesis
7_maps	Creating maps with geo-coded projects and respondents *(made with R)*

Note: Original data sets were partly received per request and must not be passed on. For revisal and replication purposes, edited dta-files can be requested from the author.

Dataset Description

Overall number of observations (N): 93,661 respondents (sample only)

Table A-3: Description of Afrobarometer waves (sample only)

	Wave 4	**Wave 5**	**Wave 6**
Survey years	2008, 2009	2011, 2012, 2013	2014, 2015
Number of observations	20,211	36,129	37,321
Number of survey countries	18	27	28
Link to data sets (without geo-codes)		https://afrobarometer.org/data/merged-data	

Table A-4: Description of AidData (sample only)

	China	**World Bank**
Years covered	2000 – 2014	2000 – 2014
Number of projects	1,582	6,332
Number of recipient countries	28	26
Link to data sets (with geo-codes)	https://www.aiddata.org/data/geocoded-chinese-global-official-finance-dataset	https://www.aiddata.org/data/world-bank-geocoded-research-release-level-1-v1-4-2

Table A-5: Observations in sample by country and Afrobarometer wave

| Country | Afrobarometer wave | | | |
	4	**5**	**6**	**Total**
Benin	1,144	1,167	1,190	3,501
Botswana	1,060	1,033	905	2,998
Burundi	0	1,044	1,096	2,140
Cameroon	0	1,098	1,157	2,255
Cape Verde	577	608	439	1,624
Cote D'Ivoire	0	1,128	1,146	2,274
Gabon	0	0	1,143	1,143
Ghana	1,077	2,279	2,221	5,577
Guinea	0	1,132	1,154	2,286
Kenya	575	1,296	1,654	3,525
Lesotho	407	719	733	1,859
Liberia	1,148	1,108	1,119	3,375
Madagascar	1,131	1,002	1,155	3,288
Malawi	1,056	2,201	2,162	5,419
Mali	1,116	1,193	1,191	3,500
Mauritius	0	1,025	995	2,020
Mozambique	1,009	1,946	1,961	4,916
Namibia	1,088	1,056	1,044	3,188
Niger	0	1,154	1,147	2,301
Nigeria	2,204	2,225	2,314	6,743
Senegal	1,094	1,167	1,158	3,419
Sierra Leone	0	1,170	1,120	2,290
Sudan	0	941	758	1,699
Tanzania	1,108	1,853	1,792	4,753
Togo	0	1,004	1,074	2,078
Uganda	2,329	2,294	2,249	6,872
Zambia	1,025	1,043	1,017	3,085
Zimbabwe	1,063	2,243	2,227	5,533
Total	**20,211**	**36,129**	**37,321**	**93,661**

Note: There are three more countries in the Afrobarometer sample (Burkina Faso, Swaziland, and São Tomé and Principe) which cannot be used for the analysis as no data on Chinese aid projects is available for these countries.

Data Source: Afrobarometer wave 4, 5, and 6 (2008; 2015; 2016)

Table A-6: Number of Chinese aid projects per country

Country	Number of Chinese Aid Projects
Benin	36
Botswana	45
Burundi	27
Cameroon	87
Cape Verde	7
Côte d'Ivoire	21
Gabon	20
Ghana	107
Guinea	29
Kenya	133
Lesotho	20
Liberia	54
Madagascar	15
Malawi	30
Mali	26
Mauritius	42
Mozambique	37
Namibia	43
Niger	19
Nigeria	43
Senegal	21
Sierra Leone	71
Sudan	70
Tanzania	234
Togo	35
Uganda	125
Zambia	104
Zimbabwe	81
Total	**1,582**

Table A-7: Number of Chinese aid projects per agreement year

Agreement Year	Number of Chinese Aid Projects
2000	31
2001	34
2002	45
2003	86
2004	68
2005	56
2006	128
2007	189
2008	189
2009	159
2010	139
2001	113
2012	146
2013	88
2014	111
Total	**1,582**

Data Source (both tables): AidData (2018)

Table A-8: Number of World Bank aid projects per country	
Country	**Number of World Bank Aid Projects**
Benin	328
Botswana	6
Burkina Faso	176
Burundi	145
Cameroon	198
Côte d'Ivoire	13
Gabon	15
Ghana	946
Guinea	103
Kenya	364
Lesotho	47
Liberia	149
Madagascar	200
Malawi	249
Mali	250
Mauritius	17
Mozambique	378
Niger	120
Nigeria	788
Senegal	224
Sierra Leone	101
South Africa	9
Swaziland	24
Tanzania	721
Togo	50
Uganda	530
Zambia	181
Total	**6,332**

Table A-9: Number of World Bank aid projects per start year	
Start Year	**Number of World Bank Aid Projects**
2000	448
2001	331
2002	135
2003	373
2004	545
2005	185
2006	336
2007	252
2008	726
2009	579
2010	589
2001	473
2012	496
2013	333
2014	531
Total	**6,332**

Note: Burkina Faso and Swaziland have no Chinese aid projects. Four countries (Cape Verde, Namibia, Sudan, and Zimbabwe) from Afrobarometer sample have no World Bank aid projects. The starting year is here taken as an equivalent of the agreement year for Chinese aid projects since there is no such variable in the World Bank data set.

Data Source (both tables): AidData (2017)

Table A-10: Flow classes of China's foreign assistance to SSA

Flow Class	Frequency	Percent	Cumulative
ODA-like	1,262	79.77	79.77
OOF-like	148	9.36	89.13
Vague (official finance)	172	10.87	100.00
Total	**1,582**	**100.00**	

Source: AidData (2018)

Figure A-1: Chinese flow classes in detail

Legend:
- Export credits
- Free-standing technical assistance
- Grant
- Loan (no debt rescheduling)
- Scholarships/training in donor country
- Vague TBD
- Debt relief/ rescheduling
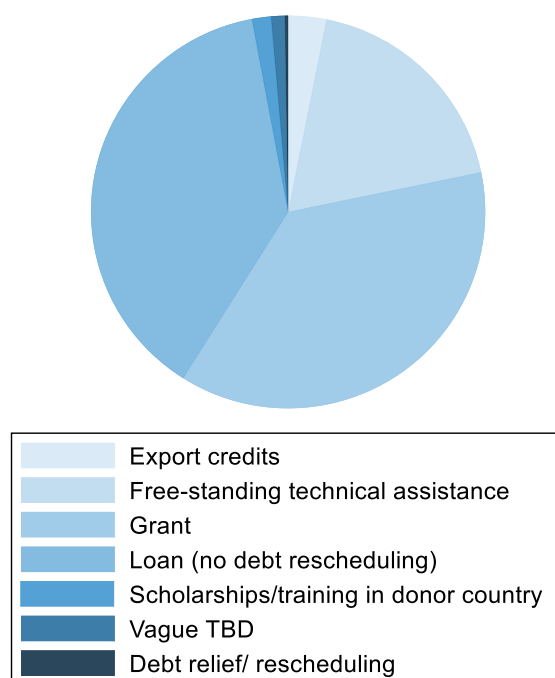
Source: Own graphic. Data from AidData (2018)

Table A-11: Sectoral composition of Chinese aid projects

Sector	Frequency	Percent	Cumulative
Action Relating to Debt	4	0.25	0.25
Agriculture, Forestry and Fishing	66	4.17	4.42
Business and Other Services	1	0.06	4.49
Communications	216	13.65	18.14
Developmental Food Aid/Food Security	8	0.51	18.65
Education	161	10.18	28.82
Emergency Response	14	0.88	29.71
Energy Generation and Supply	96	6.07	35.78
General Environmental Protection	2	0.13	35.90
Government and Civil Society	116	7.33	43.24
Health	350	22.12	65.36
Industry, Mining, Construction	22	1.39	66.75
Non-food Commodity Assistance	3	0.19	66,94
Other Multisector	14	0.88	67.83
Other Social Infrastructure and Services	103	6.51	74.34
Population Policies and Reproductive Health	1	0.06	74.40
Support to NGOs	3	0.19	74.59
Trade and Tourism	2	0.13	74.72
Transport and Storage	304	19.22	93.93
Water Supply and Sanitation	87	5.50	99.43
Women in Development	7	0.44	99.87
Unallocated/ Unspecified	2	0.13	100.00
Total	**1,595**	**100.00**	

Source: AidData (2018)

Table A-12: Grouping of individual sectors into multi-sectors

Social Infrastructure	Developmental Food Aid/Food Security; Education; Health; Other Social Infrastructure and Services; Population Policies and Reproductive Health; Water Supply and Sanitation
Economic Infrastructure	Agriculture, Forestry and Fishing; Communications; Energy Generation and Supply; Industry, Mining, Construction; Transport and Storage
Government & Civil Society	Action Relating to Debt; Government and Civil Society
Not included	Business and Other Services; Emergency Response; General Environmental Protection; Other Multisector; No-food Commodity Assistance; Trade and Tourism; Women in Development; Unallocated/Unspecified

Figure A-2: Allocation of Chinese aid projects by multi-sector
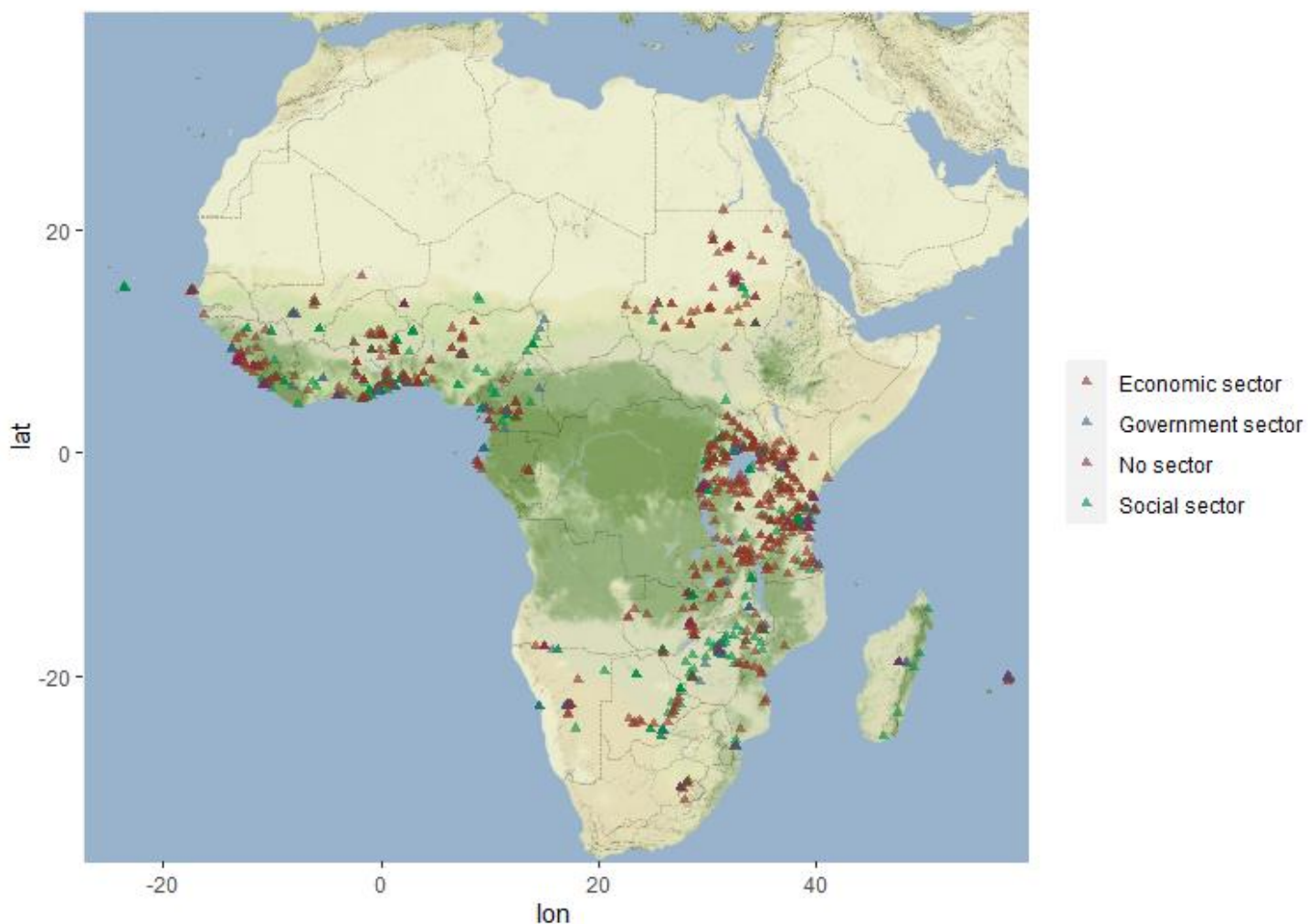
Source: Own graphic. AidData (2018)

Coding Strategy

Figure A-3: Timeline illustrating coding of treatment groups

2008	2010	2012	2014
Survey Area A	Project Start Area A	Project Start Area B	Survey Area B
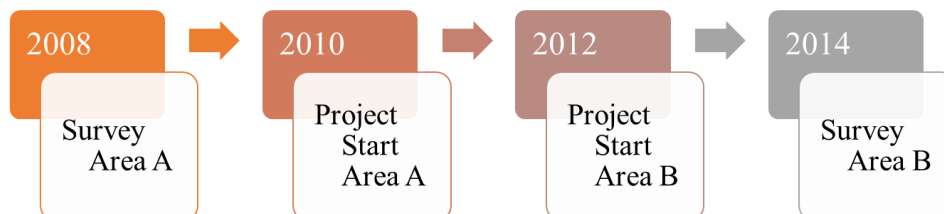
Note: In this example, a person living in area A is surveyed in 2008 whereas the aid project in her area will be implemented in 2010. Thus, the person is coded *inactive25* as the project is in the future. On the contrary, in area B, the aid project starts in 2012 whereas the survey takes place in 2014 for which reason people living in area B are coded *active25,* given that the project has not been completed before 2013 in which case they would be coded *suspended25*. Hence, a person surveyed in 2008 can belong to the post-treatment group while a person interviewed six years later can be part of the pre-treatment group, depending on the time the treatment effect occurs in the respective area.

Figure A-4: Distribution of respondents with access to Chinese aid projects

Note: Only active projects included.
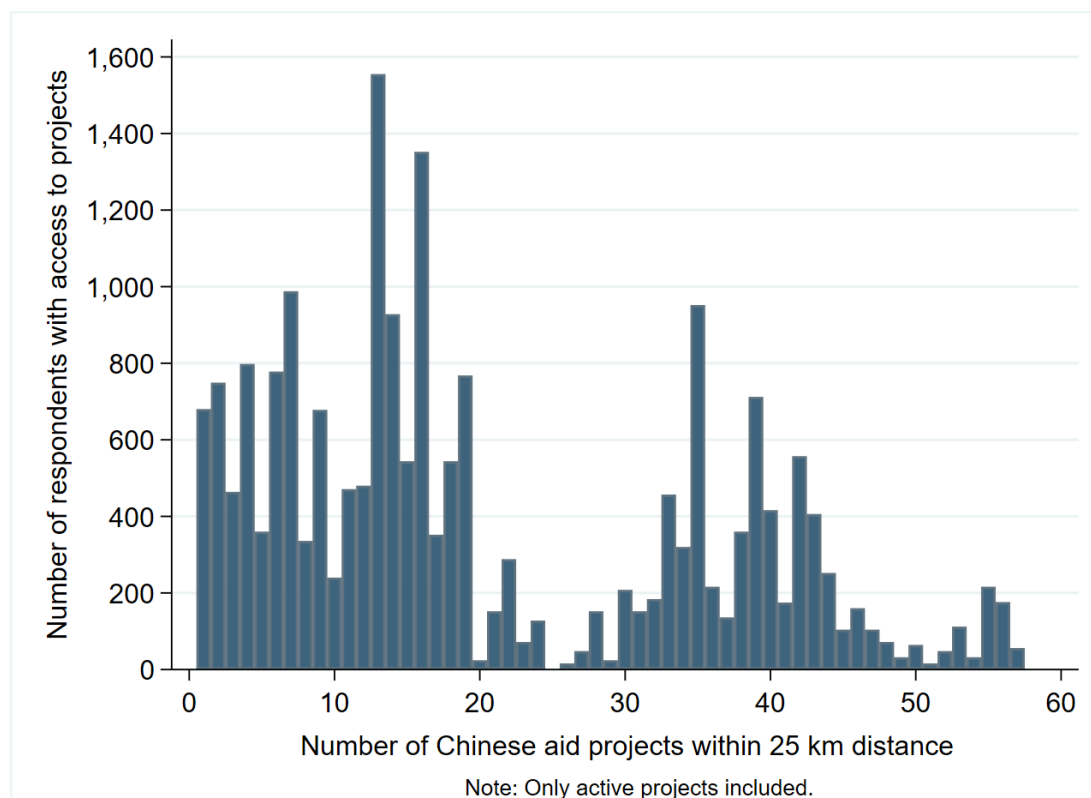
Descriptive Statistics

Table A-13: Summary statistics

VARIABLES	Observations	Mean	Std. Dev.	Min.	Max.
DEPENDENT VARIABLES					
tax morale (dummy)	93,661	0.73	0.44	0	1
tax morale (ordinal)	93,661	3.76	1.19	1	5
tax compliance (dummy)	73,878	0.72	0.45	0	1
tax compliance (ordinal)	73,878	3.59	0.82	0	4
performance water	90,663	0.43	0.50	0	1
performance electricity	88,603	0.38	0.49	0	1
performance roads	90,541	0.48	0.50	0	1
equal treatment	90,194	0.44	0.50	0	1
government responsiveness	83,862	0.24	0.43	0	1
INDEPENDENT VARIABLES					
active25	93,661	0.22	0.41	0	1
inactive25	93,661	0.18	0.38	0	1
WB active25	93,179	0.70	0.46	0	1
WB inactive 25	93,179	0.08	0.20	0	1
CONTROL VARIABLES					
age	93,661	36.56	14.26	18	105
female	93,661	0.49	0.50	0	1
urban	93,661	0.39	0.49	0	1
education	93,661	0.75	0.66	0	2
religion	93,661	1.32	0.61	0	3
MACRO VARIABLES					
Government effectiveness	93,661	–0.66	0.52	–1.55	1.04
ODA	93,661	75.04	77.50	8.61	503.89
Fiscal capacity	83,693	16.86	15.83	0.70	85.64

Table A-14: Subsamples: Descriptive statistics of DV *(tax morale)*

Subsample	Observations	Mean	Std. Dev.	Min	Max
High govern. effectiveness	46,125	0.74	0.43	0	1
Low govern. effectiveness	47,536	0.73	0.45	0	1
High ODA inflows	47,390	0.75	0.43	0	1
Low ODA inflows	46,271	0.72	0.45	0	1
High fiscal capacity	41,962	0.75	0.44	0	1
Low fiscal capacity	41,731	0.72	0.45	0	1
World Bank	93,179	0.73	0.44	0	1
Social infrastructure	84,194	0.74	0.44	0	1
Economic infrastructure	86,090	0.73	0.44	0	1
Government & civil society	71,564	0.74	0.44	0	1

Figure A-5: Distribution of main DV *tax morale* in original scaling
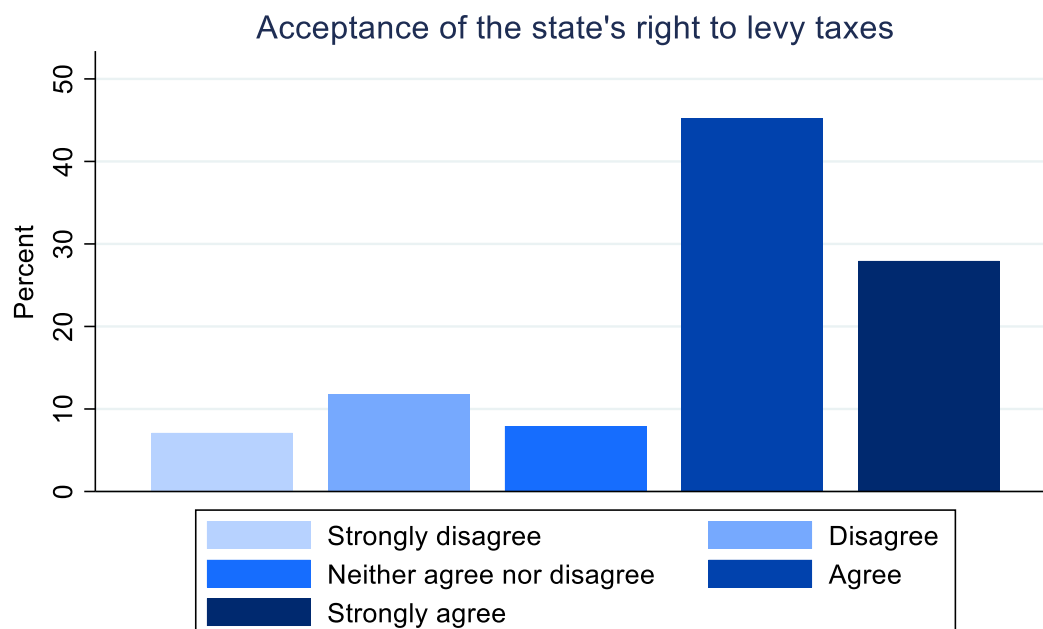
Survey question: "(...) [P]lease tell me whether you disagree or agree: The tax authorities always have the right to make people taxes." (Codebook Afrobarometer 2017: 27)

Estimations

Tables A-15: Baseline model including control variables

VARIABLES	(M1) Tax morale
active25	0.018***
	(0.006)
inactive25	-0.014**
	(0.006)
age	0.001***
	(0.000)
female	-0.015***
	(0.003)
urban	0.012**
	(0.005)
education×	
Between primary schooling completed and secondary schooling completed	0.038***
	(0.004)
Post-secondary schooling	0.052***
	(0.006)
religion××	
Christian	0.024***
	(0.008)
Muslim	0.039***
	(0.009)
Traditional and others	0.005
	(0.012)
Constant	0.724***
	(0.015)
$\beta_1 - \beta_2$	**0.032**
F-test: $\beta_1 - \beta_2 = 0$	20.79
p-value	0.000
Mean DV	0.73
Observations	93,661
R^2	0.035

×reference category is "no primary schooling", ××reference category is "no religion"

Note: Country and survey year FE included. Robust standard errors in parentheses. *** p<0.01, **p<0.05, * p<0.1

Table A-16: Multicollinearity test

Variables	VIF	1/VIF
female	1.04	0.964425
age	1.11	0.904370
inactive25	1.23	0.810381
education	1.36	0.737579
religion	1.44	0.695806
urban	1.37	0.727676
religion	1.44	0.695806
active25	1.46	0.685794

Test result autocorrelation in the residuals:

Durbin-Watson d-statistic (86162, 93661) = 1.85134 → 1.85 ≈ 2 → no autocorrelation issues

Table A-17: Different cut-off zones

VARIABLES	(M1) 10 km	(M2) 20 km	(M3) 25 km	(M4) 30 km	(M5) 40 km	(M6) 50 km	(M7) 75 km
active	0.014*	0.015**	0.018***	0.017***	0.015**	0.007	0.010*
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
inactive	0.004	-0.009	-0.014**	-0.011*	-0.008	-0.010*	0.002
	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)	(0.006)
$\beta_1 - \beta_2$	**0.010**	**0.024**	**0.032**	**0.028**	**0.022**	**0.017**	**0.008**
F-test: $\beta_1 - \beta_2 = 0$	1.45	10.42	20.79	17.17	13.66	7.85	2.06
p-value	0.229	0.001	0.000	0.000	0.000	0.005	0.152
Observations	94,380	93,902	93,661	93,349	93,014	92,644	92,917
R^2	0.035	0.035	0.035	0.035	0.035	0.035	0.035

Note: DV: Tax *morale*, Baseline controls, survey year and country FE included in every model. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A-18: Content-related robustness tests

VARIABLES	(M1) Baseline	(M2) Excluding next year	(M3) No immediate realization	(M4) Country time trend	(M5) Region time trend	(M6) ODA-like flows only	(M7) Long project duration
active25	0.018***	0.024***	0.018***	0.017***	0.008	0.016**	0.014
	(0.006)	(0.007)	(0.007)	(0.006)	(0.008)	(0.006)	(0.012)
inactive25	-0.014**	-0.013**	-0.018***	-0.013**	-0.007	-0.000	–0.014**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
$\beta_1 - \beta_2$	**0.032**	**0.037**	**0.035**	**0.030**	**0.015**	**0.017**	**0.028**
F-test: $\beta_1 - \beta_2 = 0$	20.79	22.08	21.63	18.26	2.89	5.70	4.81
p-value	0.000	0.000	0.000	0.000	0.089	0.017	0.028
Observations	93,661	83,905	86,808	93,661	93,661	93,661	76,075
R^2	0.035	0.036	0.038	0.037	0.085	0.035	0.035

Note: DV: *Tax morale*, Baseline controls, survey year and country FE included in every model. Robust standard errors in parentheses.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A-19: Data-related robustness tests

VARIABLES	(M1) Baseline	(M2) Ologit	(M3) Logit	(M4) Probit	(M5) Without wave 4	(M6) Without wave 5	(M7) Without wave 6	(M8) Extended sample	(M9) Precision code 1 only	(M10) Projects sites only	(M11) No missing start years	(M12) Agreement years	(13) More controls
active25	0.018***	0.105***	0.105***	0.063***	0.026***	0.016**	0.007	0.015**	0.018**	0.029***	0.021***	0.004	0.020***
	(0.006)	(0.034)	(0.034)	(0.020)	(0.007)	(0.008)	(0.008)	(0.006)	(0.007)	(0.008)	(0.007)	(0.005)	(0.006)
inactive25	-0.014**	-0.071**	-0.071**	-0.041**	-0.014**	-0.017**	-0.010	-0.015***	-0.008	-	-0.006	-0.023*	-0.011*
	(0.006)	(0.031)	(0.031)	(0.018)	(0.007)	(0.007)	(0.007)	(0.006)	(0.007)	-	(0.008)	(0.014)	(0.006)
$\beta_1 - \beta_2$	**0.032**	**0.176**	**0.033**	**0.033**	**0.040**	**0.033**	**0.017**	**0.030**	**0.026**	**0.029**	**0.027**	**0.027**	**0.031**
F-test: $\beta_1 - \beta_2 = 0$	20.79				24.44	14.15	3.56	19.46	9.96	13.94	8.94	3.80	20.14
Chi2 test: $\beta_1 - \beta_2 = 0$		21.48	21.48	21.71									
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.000	0.002	0.000	0.00Tabk l3	0.051	0.000
Observations	93,661	93,661	93,661	93,661	73,450	57,532	56,340	106,250	66,874	36,812	53,393	92,472	89,525
R^2	0.035				0.039	0.034	0.036	0.036	0.033	0.048	0.038	0.034	0.037
Pseudo R^2		0.031	0.031	0.031									

Note: DV: *Tax morale*, Baseline controls, survey years and country FE are included in every model. Robust SE in parentheses. *** p<0.01, ** p<0.05, * p<0.1

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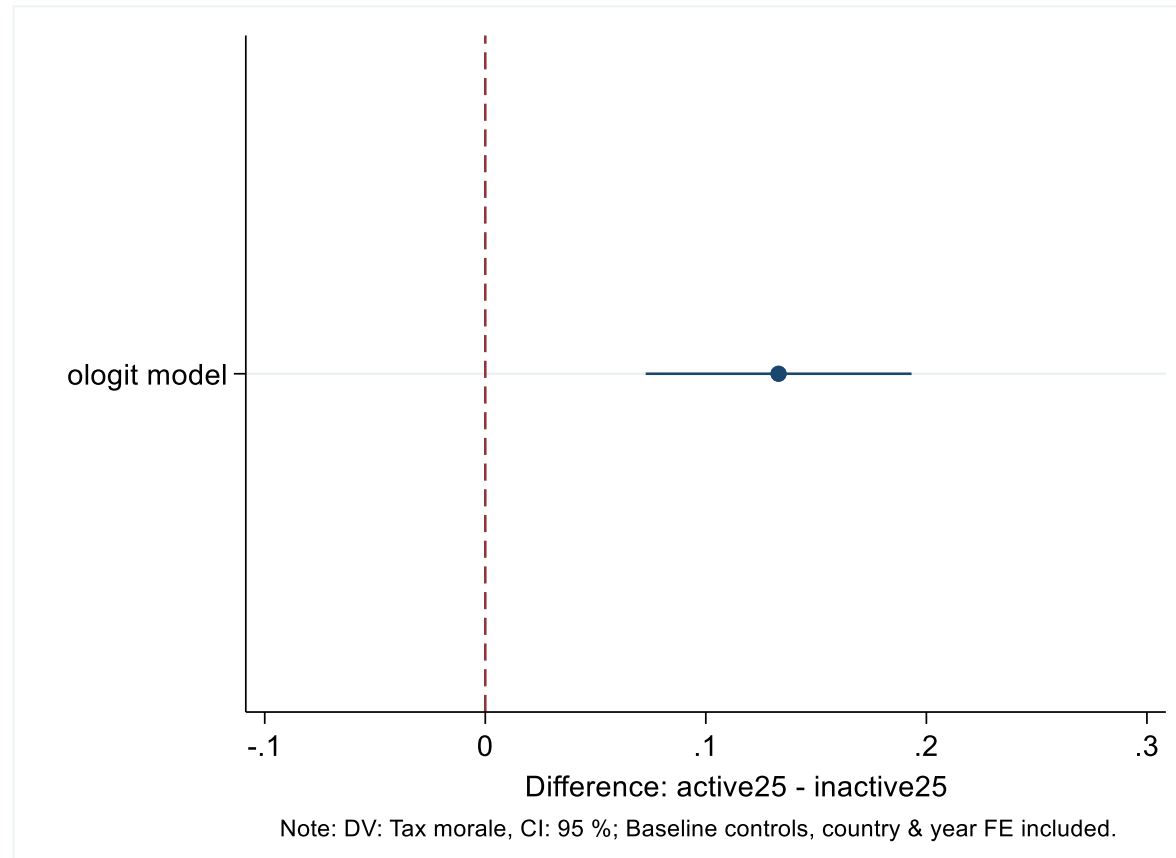*Figure A-6:* Robustness test for ordered logistic regression (M2 in *Table A-19*)

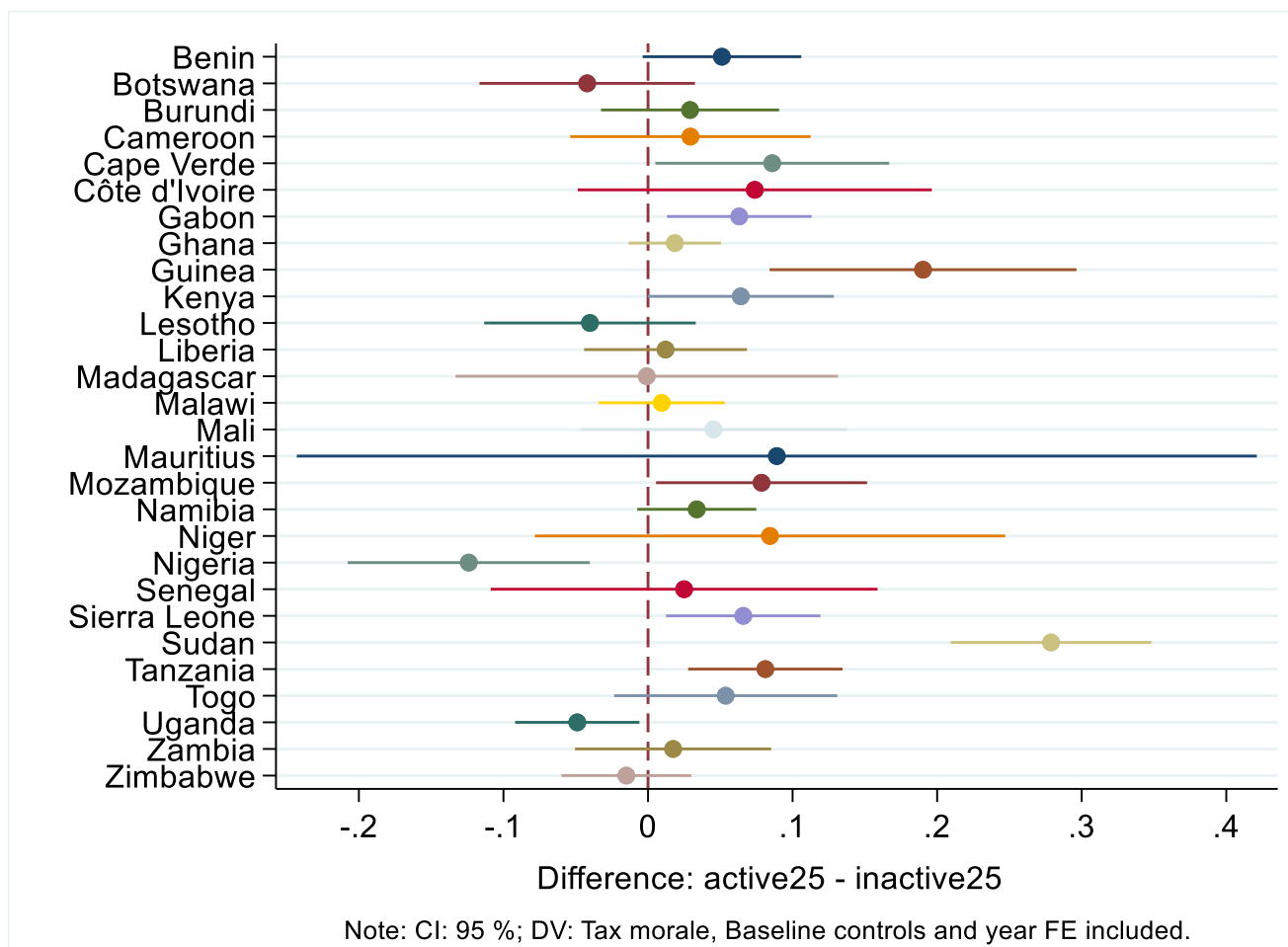*Figure A-7:* Country variation in the effect of Chinese aid on *tax morale*

Note: CI: 95 %; DV: Tax morale, Baseline controls and year FE included.

Table A-20: Heterogenous effects across different macro-contexts

VARIABLES	(M1) High governance effectiveness	(M2) Low governance effectiveness	(M3) High ODA inflows	(M4) Low ODA inflows	(M5) High fiscal capacity	(M6) Low fiscal capacity
active25	0.008	0.028***	0.028***	0.007	0.026***	0.000
	(0.008)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)
inactive25	-0.011	-0.020**	-0.015*	-0.012	-0.024***	-0.002
	(0.007)	(0.009)	(0.008)	(0.008)	(0.008)	(0.009)
$\beta_1 - \beta_2$	**0.019**	**0.049**	**0.043**	**0.018**	**0.050**	**0.002**
F-test: $\beta_1 - \beta_2 = 0$	4.217	19.050	22.565	3.046	25.769	0.028
p-value	0.040	0.000	0.000	0.081	0.000	0.866
Mean DV	0.74	0.73	0.75	0.72	0.75	0.72
Observations	46,125	47,536	47,390	46,271	41,962	41,731
R^2	0.031	0.040	0.036	0.037	0.045	0.034

Note: DV: *Tax morale*. Baseline controls, country and year FEs included in every model. Data on fiscal capacity is missing for Cape Verde, Malawi, Mauritius, and Mozambique. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A-21: Mechanisms

VARIABLES	(M1) *Performance roads & bridges*	(M2) *Performance electricity*	(M3) *Performance water & sanitation*	(M4) *Equal treatment*	(M5) *Government responsive- ness*
active25	0.050***	0.018**	-0.011	-0.048***	-0.059***
	(0.008)	(0.009)	(0.008)	(0.007)	(0.006)
inactive25	0.013*	0.001	-0.002	-0.010	-0.011*
	(0.008)	(0.008)	(0.007)	(0.006)	(0.006)
$\boldsymbol{\beta_1 - \beta_2}$	**0.037**	**0.017**	**-0.009**	**-0.038**	**-0.048**
F-test: $\beta_1 - \beta_2 = 0$	13.94	2.89	0.95	21.28	48.27
p-value	0.000	0.089	0.330	0.000	0.000
Mean DV	0.48	0.38	0.43	0.44	0.24
Observations	90,541	88,603	90,663	90.194	83,862
R^2	0.074	0.114	0.047	0.070	0.049

Note: Baseline controls, country and year FE included in every model. Robust standard errors in parentheses.

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A-22: Sample balance between pre- and post-treatment group

VARIABLES	Pre-Treatment Group				Post-Treatment Group			
	Observations	Mean	Std. Dev.	Values	Observations	Mean	Std. Dev.	Values
age	16.414	36.56	14.30	18 – 105	20,288	35.73	13.79	18 –103
female	16.414	0.49	0.5	0 – 1	20,288	0.5	0.5	0 – 1
urban	16.414	0.39	0.49	0 – 1	20,288	0.74	0.44	0 – 1
education	16.414	0.77	0.65	0 – 2	20,288	0.98	0.66	0 – 2
religion	16.414	1.25	0.58	0 – 3	20,288	1.35	0.65	0 – 3

Table A-23: Sample balance of Chinese aid projects per sector

Sector	Restricted sample (in percent)	Overall sample (in percent)
Action Relating to Debt	0.25	1.93
Agriculture, Forestry and Fishing	4.17	6.12
Banking and Financial Services	0.00	0.36
Business and Other Services	0.06	0.12
Communications	13.65	11.76
Developmental Food Aid/Food Security	0.51	0.99
Education	10.18	10.30
Emergency Response	0.88	3.16
Energy Generation and Supply	6.07	6.04
General Budget Support	0.00	0.04
General Environmental Protection	0.13	0.28
Government and Civil Society	7.33	8.29
Health	22.12	20.44
Industry, Mining, Construction	1.39	1.34
Non-food Commodity Assistance	0.19	0.12
Other Multisector	0.88	1.62
Other Social Infrastructure and Services	6.51	5.29
Population Policies and Reproductive Health	0.06	0.20
Support to NGOs	0.19	0.20
Trade and Tourism	0.13	0.24
Transport and Storage	19.22	15.63
Water Supply and Sanitation	5.50	4.66
Women in Development	0.44	0.39
Unallocated/ Unspecified	0.13	0.51